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The President of the Legislative Council,
Legislative Council Complex,
Hong Kong.

Sir,

In accordance with the paper tabled in the Provisional Legislative Council on 11 February 1998 on the Scope of Government Audit in the Hong Kong Special Administrative Region — ‘Value for Money Audits’, I have the honour to submit my Report No. 76 on the results of value for money audits completed in accordance with the value for money audit guidelines laid down in the paper. These guidelines are also attached.

Yours faithfully,

John Chu

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The Director of Audit's Report No. 76 contains the following chapters:

Chapter	Subject
1	Management of birth, death and marriage registrations
2	Education support measures for non-Chinese speaking students
3	Control of trade in endangered species by the Agriculture, Fisheries and Conservation Department
4	Innovation and Technology Commission: Efforts in promoting internationally accepted standards and conformity assessment services
5	Management of government vehicle fleet by the Government Logistics Department
6	Site formation and associated infrastructure works for development near Choi Wan Road and Jordan Valley
7	Upgrading and operation of Pillar Point Sewage Treatment Works

VALUE FOR MONEY AUDIT GUIDELINES

Value for money audit

Value for money audit is an examination into the economy, efficiency and effectiveness with which any bureau of the Government Secretariat, department, agency, other public body, public office, or audited organisation has discharged its functions. Value for money audit is carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and have been accepted by the Administration.

2. The guidelines are:

- firstly, the Director of Audit should have great freedom in presenting his reports to the Legislative Council. He may draw attention to any circumstance which comes to his knowledge in the course of audit, and point out its financial implications. Subject to the guidelines, he will not comment on policy decisions of the Executive and Legislative Councils, save from the point of view of their effect on the public purse;
- secondly, in the event that the Director of Audit, during the course of carrying out an examination into the implementation of policy objectives, reasonably believes that at the time policy objectives were set and decisions made there may have been a lack of sufficient, relevant and reliable financial and other data available upon which to set such policy objectives or to make such decisions, and that critical underlying assumptions may not have been made explicit, he may carry out an investigation as to whether that belief is well founded. If it appears to be so, he should bring the matter to the attention of the Legislative Council with a view to further inquiry by the Public Accounts Committee. As such an investigation may involve consideration of the methods by which policy objectives have been sought, the Director should, in his report to the Legislative Council on the matter in question, not make any judgement on the issue, but rather present facts upon which the Public Accounts Committee may make inquiry;
- thirdly, the Director of Audit may also consider as to whether policy objectives have been determined, and policy decisions taken, with appropriate authority;

- fourthly, he may also consider whether there are satisfactory arrangements for considering alternative options in the implementation of policy, including the identification, selection and evaluation of such options;
- fifthly, he may also consider as to whether established policy aims and objectives have been clearly set out; whether subsequent decisions on the implementation of policy are consistent with the approved aims and objectives, and have been taken with proper authority at the appropriate level; and whether the resultant instructions to staff accord with the approved policy aims and decisions and are clearly understood by those concerned;
- sixthly, he may also consider as to whether there is conflict or potential conflict between different policy aims or objectives, or between the means chosen to implement them;
- seventhly, he may also consider how far, and how effectively, policy aims and objectives have been translated into operational targets and measures of performance and whether the costs of alternative levels of service and other relevant factors have been considered, and are reviewed as costs change; and
- finally, he may also be entitled to exercise the powers given to him under section 9 of the Audit Ordinance (Cap. 122).

3. The Director of Audit is not entitled to question the merits of the policy objectives of any bureau of the Government Secretariat, department, agency, other public body, public office, or audited organisation in respect of which an examination is being carried out or, subject to the guidelines, the methods by which such policy objectives have been sought, but he may question the economy, efficiency and effectiveness of the means used to achieve them.

4. Value for money audit is conducted in accordance with a programme of work which is determined annually by the Director of Audit. The procedure of the Public Accounts Committee provides that the Committee shall hold informal consultations with the Director of Audit from time to time, so that the Committee can suggest fruitful areas for value for money audit by the Director of Audit.

CHAPTER 1

Security Bureau Immigration Department

Management of birth, death and marriage registrations

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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MANAGEMENT OF BIRTH, DEATH AND MARRIAGE REGISTRATIONS

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MANAGEMENT OF BIRTH, DEATH AND MARRIAGE REGISTRATIONS

Executive Summary

1. The Immigration Department (ImmD) is responsible for the registration of births, deaths and marriages, and the provision of related services. The Director of Immigration is appointed as the Registrar of Births and Deaths and the Registrar of Marriages. The Births, Deaths and Marriage (BDM) Registration (Operations) Section and the BDM Registration (Support) Section (collectively referred to as BDM Sections) under the Documents Sub-division of ImmD are responsible for providing services for registration of births, deaths and marriages to the public. BDM Sections operate four births registries, three deaths registries and five marriage registries, with an establishment of 193 staff as at 31 December 2020. The registration of births, deaths and marriages and the provision of related civil registration services is under the programme area “Personal Documentation” of ImmD. In 2019-20, the total revised estimate of expenditure for the programme area was \$1,304.6 million. The Audit Commission (Audit) has recently conducted a review to examine ImmD’s work on the management of birth, death and marriage registrations with a view to identifying areas for improvement.

Registration of births and deaths

2. *Management of births registries.* According to the Births and Deaths Registration Ordinance (BDO — Cap. 174), every child born alive in Hong Kong shall be registered within 42 days after the day of such birth. In 2019, 53,173 births were registered. Of the 53,173 registered births, 1,859 births were registered after the prescribed 42 days (para. 1.5). Audit examination of the work of BDM Sections in birth registrations revealed the following areas for improvement:

- (a) *Need to keep under review the manpower deployment of births registries.* From 2000 to 2019, the number of registered births decreased slightly by 1% from 53,720 to 53,173. During the period, the number of registered births increased steadily from 48,914 in 2004 to a peak of 95,387 in 2011, then dropped significantly by 40% to 57,651 in 2013 mainly due to the implementation of the zero-quota policy on obstetric services for Mainland

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women whose spouses are not Hong Kong residents. In the same period, the staff establishments responsible for birth registration for the Births and Deaths General Register Office and the Kowloon Births Registry slightly decreased or remained unchanged. From 2019 to 2020, the number of registered births decreased significantly by 21% from 53,173 to 41,958, resulting in the first natural population decrease since 1960s. ImmD needs to keep under review the manpower deployed on birth registration work (paras. 2.2 and 2.5);

- (b) ***Need to keep records on the processing time for birth registrations.*** ImmD pledges to process a birth registration within 30 minutes at counter. According to ImmD's Controlling Officer's Report (COR), ImmD met the standard processing time of within 30 minutes in 99.7% of the birth/death/adoption registration cases in 2019. According to Financial Services and the Treasury Bureau (FSTB) guidelines, Controlling Officers should satisfy themselves that proper performance records are maintained and, as far as practicable, can be validated. However, Audit noted that the births registries did not keep records on the processing time of cases at counter (para. 2.6); and
- (c) ***Scope for improvement in handling unregistered birth cases.*** In April 2015, a 15-year-old girl plunged to her death from a building. It was later discovered that the girl and her younger sister were born in Hong Kong, but their parents had never registered their births. The tragic incident aroused wide public concern about whether the well-being of children without a birth certificate are adequately protected, as well as the social problems (e.g. child abuse) that may arise as a result (para. 2.7). Audit examination found that there was room for improvement in taking follow-up actions on unregistered birth cases by ImmD:
 - (i) ***Follow-up actions by BDM Registration (Operations) Section.*** According to ImmD, there were 150 unregistered birth cases (i.e. registration outstanding for 43 days or more from the date of birth of the child) as at 31 October 2020. BDM Registration (Operations) Section was responsible for sending reminder letters to the parents and referring cases outstanding for over six months to the General Investigation Section (GIS) under the Investigation Sub-division of ImmD for investigation in accordance with ImmD's guidelines. Audit examination of the 150 cases found that: (1) first reminder letters had not been sent to the parents in 43 (29%) cases.

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For the remaining 107 cases with first reminder letters sent to the parents, there were delays of 1 to 61 days (averaging 6 days) in sending the letters in 95 (89% of 107) cases; and (2) 40 cases had birth registration remaining outstanding as at 15 December 2020. Among the 40 cases, 7 cases had been outstanding for over six months, but 5 (71% of 7) cases had not been referred to GIS for investigation. According to ImmD, the cases concerned warranted flexible handling due to various reasons (e.g. appointment for birth registration had already been scheduled). However, Audit noted that ImmD's guidelines had not promulgated the details for handling cases warranting flexible handling (paras. 2.8, 2.10 and 2.11); and

- (ii) ***Follow-up actions by GIS.*** From June 2018 to 31 October 2020, 15 unregistered birth cases were referred to GIS for investigation. As at 31 December 2020, 11 of the 15 cases had been closed while the remaining 4 were still under investigation. Of these 11 completed investigation cases: (1) in 1 case, during the period from November 2018 to February 2019, GIS only tried to contact the parents by phone on weekdays with the same set of phone numbers once in each month. When one parent was intercepted by ImmD in December 2019, prosecution had already been time-barred; and (2) for 3 cases which could not be completed within four months requiring reporting to the Senior Immigration Officer for directive, the related discussions had not been recorded in individual case files. Furthermore, Audit noted that ImmD's guidelines on handling unregistered birth cases had not set any time target for commencement of investigation (para. 2.12).

3. ***Management of deaths registries.*** According to BDO, deaths from natural causes should be registered within 24 hours. If a death results from an unnatural cause (e.g. poison or violence), the case is reported to a coroner who may conduct an inquest to determine the cause of death and then inform the Registrar of Births and Deaths to register the death. In 2019, 48,706 deaths were registered (para. 1.6). Audit examination of the work of BDM Sections in death registrations revealed the following areas for improvement:

- (a) ***Need to keep records on the processing time for death registrations.*** ImmD pledges to process a death registration within 30 minutes at counter. However, similar to birth registrations, ImmD had not kept records on the

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processing time for death registration cases. Audit visits to the Hong Kong Island Deaths Registry and the Kowloon Deaths Registry on 11 and 12 January 2021 respectively found that: (i) at the Hong Kong Island Deaths Registry, the average time required to process an application was 12.5 minutes and the average waiting time for counter services was 6 minutes; and (ii) at the Kowloon Deaths Registry, the average time required to process an application was 11 minutes and the average waiting time for counter services was 4 minutes. In comparison, from 2 to 11 January 2021, the average waiting time based on ImmD records was 24 minutes. In order to improve the provision of management information on death registration, ImmD needs to keep records on the processing time for death registrations (para. 2.17); and

- (b) ***Need to address the issue of non-compliance with BDO time requirement of registering deaths.*** According to BDO, deaths from natural causes shall be registered by the deceased's relatives or other relevant persons of the deceased within 24 hours. A person who fails to perform the duty shall be liable on summary conviction to a fine at level 1 or to imprisonment for 6 months. Audit analysis of the data of death registrations at the three deaths registries for the period from January 2015 to October 2020 revealed that, out of 213,770 registrations of natural deaths, 103,816 (49%) registrations were made at least 3 days after the dates of death (with the longest being 665 days). Audit considers that ImmD needs to critically explore measures that can be taken to address the issue of non-compliance with this BDO requirement (paras. 2.18 and 2.20).

4. ***Performance reporting.*** ImmD has included key performance targets and indicators on managing birth, death and marriage registrations in its CORs (para. 1.12). Audit examination revealed the following areas for improvement:

- (a) ***Issue of a certified copy of a birth/death certificate involving search of records not included as key performance measures.*** Audit noted that the number of searches of birth/death records had been on an increasing trend in recent years, showing that there might be a notable increase in demand on the issue of certified copies of birth/death certificates involving search of records. However, ImmD had not included the issue of these certified copies in its CORs as key performance measure (para. 2.23(a)); and

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- (b) *Need to take measures to monitor the waiting time for death registrations.* ImmD pledges to process a death registration within 30 minutes at counter. According to ImmD, the processing time does not include the waiting time of an applicant for counter services because the number of cases to be handled daily was unpredictable. While noting that it might not be practicable to include the waiting time in the performance pledge, Audit considers that ImmD needs to take measures to monitor the waiting time for death registrations (para. 2.23(b)).

Registration of marriages

5. Marriages in Hong Kong are governed by the Marriage Ordinance (MO — Cap. 181) and the Marriage Reform Ordinance (Cap. 178). Either one of the marrying parties shall give at least 15 clear days' notice (i.e. 15 calendar days after the date of giving notice) of an intended marriage either in person or through a Civil Celebrant of Marriages (CCM) to the Registrar of Marriages. The marriage may take place at any of the five marriage registries or the 272 (as at 10 July 2020) licensed places of worship in Hong Kong, including churches and the Hindu Temple in Happy Valley within three months from the date of giving the notice if no objection is received. Marrying parties may also engage a CCM to celebrate their marriages at any places other than the marriage registries or licensed places of worship (paras. 1.7 and 1.8).

6. *Management of marriage registries.* In 2019, out of the 44,522 registered marriages, 20,315 (45.6%) marriages were celebrated/registered at the marriage registries. ImmD has set internal marriage ceremony quotas for each marriage registry. Quotas on weekdays, Saturdays and Sundays are set for a marriage registry with reference to factors such as available manpower resources, office space (e.g. number of marriage halls), and popularity of the marriage registry. Audit reviewed the utilisation of marriage registries from January 2015 to October 2020 and found that (paras. 1.8 and 3.3):

- (a) the utilisation rates of the five marriage registries on weekdays (17% to 75%) were lower than those on Saturdays (55% to 98%) (para. 3.3(a)); and
- (b) only one of the five marriage registries (i.e. City Hall Marriage Registry) was open in both the morning and the afternoon on Saturdays. Furthermore, Tsim Sha Tsui Marriage Registry and Sha Tin Marriage

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Registry opened only one of their two marriage halls on Saturdays (para. 3.3(b)).

In order to provide better service to the public, ImmD should consider exploring the feasibility of increasing the marriage ceremony quotas for Cotton Tree Drive Marriage Registry, Tsim Sha Tsui Marriage Registry, Sha Tin Marriage Registry and Tuen Mun Marriage Registry on Saturdays during festive seasons and on auspicious dates (para. 3.3).

7. **CCM Scheme.** To provide more choices for flexible marriage solemnisation services to the public and to make use of private sector resources in providing such services, MO was amended on 13 March 2006 to empower the Registrar of Marriages to appoint CCMs. In 2019, out of the 44,522 registered marriages, 22,505 (50.6%) were solemnised by CCMs (para. 1.9). Audit examination revealed the following areas for improvement:

- (a) ***Need to ensure that persons included in ImmD's list of CCMs meet the eligibility criteria mentioned in MO.*** ImmD publishes a list of appointed CCMs on its website for public information. As at 20 November 2020, there were 2,277 appointed CCMs on the list. The eligibility criteria for a CCM as laid down in MO include, among others, that the person must be a solicitor who holds a current practising certificate issued by The Law Society of Hong Kong or a notary public who holds a current practising certificate issued by the Hong Kong Society of Notaries. Audit compared ImmD's list of appointed CCMs with the lists of members with practising certificates of The Law Society of Hong Kong and the Hong Kong Society of Notaries (as shown on their websites) and found that 34 persons on ImmD's list were neither solicitors with practising certificates nor notaries public (paras. 3.9 and 3.11); and
- (b) ***Need to consider requiring dormant CCMs to attend refresher training course.*** Audit analysed the number of marriage solemnisation services provided by CCMs who were on the list of ImmD during the period from January 2015 to November 2020 and found that 291 (17%) of 1,756 CCMs were not active and had not provided any marriage solemnisation service for some five years from January 2016 to October 2020. ImmD needs to consider requiring dormant CCMs to attend refresher training course upon receiving their CCM renewal applications (para. 3.13).

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8. ***Bogus marriages.*** According to ImmD, bogus marriage is a bogus matrimonial relationship in which a non-local resident obtained residence status or service in Hong Kong through such marriage by means of conspiracy to defraud, making false statement to immigration officers, making false oath or bigamy. The Government has always been concerned about bogus marriages which undermine the integrity of the immigration system of Hong Kong on the one hand, and pose an undue burden on public services (e.g. medical, education and housing services) on the other. Suspected bogus marriage cases are handled mainly by the Special Task Force Sub-sections (STF) under the Enforcement Division. In 2019, ImmD investigated into 644 suspected bogus marriages cases. In the same year, 1,095 persons were arrested and 71 persons were successfully prosecuted (paras. 1.10 and 3.17). Audit examination revealed the following areas for improvement:

- (a) ***Need to expedite clearance of outstanding cases.*** Audit analysed the ageing of the 2,237 outstanding suspected bogus marriage cases as of December 2020 handled by STF and found many long outstanding ones:
 - (i) 1,110 (49.6%) cases had been outstanding for 2 years or less;
 - (ii) 838 (37.5%) cases had been outstanding for more than 2 to 4 years;
 - (iii) 122 (5.4%) cases had been outstanding for more than 4 to 6 years; and
 - (iv) 167 (7.5%) cases had been outstanding for more than 6 to 11 years (para. 3.19);
- (b) ***Need to step up supervisory checks on no-further-action cases and curtailed cases.*** According to ImmD's guidelines on supervisory checks, the responsible Assistant Principal Immigration Officer is required to spot check two samples per week randomly selected from no-further-action cases (i.e. no further investigation work is required) and curtailed cases (i.e. cases which meet the curtailment criteria for taking no further action for the time being, e.g. all necessary actions in locating the suspect have been exhausted). According to ImmD, the number of no-further-action cases and curtailed cases endorsed in 2019 was 19 and 155 respectively. Audit noted that in 2019 only 18 cases were selected for spot checking by the Assistant Principal Immigration Officer, comprising 8 (42% of 19) no-further-action cases and 10 (6% of 155) curtailed cases (paras. 3.22 to 3.24);
- (c) ***Need to improve the management of outstanding cases.*** According to ImmD's guidelines, for priority cases (e.g. cases suspected to have syndicate involvement), the case file has to be opened within two weeks after assignment of the case and the case officer shall initiate investigation

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immediately. However, no time limit is set for normal cases. For eight normal cases completed by STF in 2019 or 2020, Audit examination revealed that it took 1 to 33 days (averaging 19 days) to open a case file after case assignment to a case officer (paras. 3.26 to 3.28);

- (d) ***Need to strengthen supervisory checks of field operation.*** According to ImmD's guidelines, three Senior Immigration Officers of STF are required to conduct supervisory checks on the work of the officers in their investigation teams as frequently as possible, in particular those prolonged field operations which may last for a long period of time so as to ensure that proper procedures are being followed. Audit scrutiny of the registers of supervisory checks during the 26-week period from 1 July to 29 December 2019 found that only 19 supervisory checks were conducted on the 10 teams (i.e. an average of only 2 checks on each team over the 26-week period) under the command of the three Senior Immigration Officers. Furthermore, the registers had not recorded the time of supervisory checks of field operation by the Senior Immigration Officers (paras. 3.29 and 3.30); and

- (e) ***Need to step up efforts in locating suspects of bogus marriage cases.*** According to ImmD, in handling suspected bogus marriage cases, case officers will verify the genuineness of a marriage between the parties involved by in-depth investigations (e.g. home visits). Audit examination of a suspected bogus marriage case (cum suspected bigamy) referred to ImmD for investigation by a Mainland authority in November 2012 revealed that the actions taken by STF to locate a suspect were not entirely effective: (i) five home visits were conducted by STF in 2013 for locating the suspect but in vain; and (ii) although STF had successfully contacted the suspect by phone three times in 2013 and requested him to attend an enquiry, he failed to attend the scheduled interview on two occasions and declined to show up on the remaining occasion. It was not until early 2019 that ImmD conducted a case update and found that the suspect had already passed away in January 2019 (paras. 3.17 and 3.31).

Implementation of next generation of Application and Investigation Easy Systems

9. According to ImmD, a wide range of its core functions is supported by the first generation of Application and Investigation Easy Systems (APPLIES-1), including the processing of birth, death and marriage registrations and processing of enforcement and investigation cases (e.g. cases related to unregistered birth and bogus marriage). APPLIES-1 was implemented in phases from 2007 to 2008 with a design usage life of about 10 years. The maintenance contract for APPLIES-1, which expired in February 2019, had been extended for another three years until February 2022. In May 2018, the Finance Committee (FC) of the Legislative Council approved a sum of \$453 million for implementing the next generation of APPLIES (APPLIES-2) to replace APPLIES-1. APPLIES-2 is planned to be rolled out by phases from the fourth quarter of 2021 to the second quarter of 2022 (para. 4.2). Audit examination revealed the following areas for improvement:

- (a) ***Need to closely monitor the implementation progress of APPLIES-2.*** In June 2018, an open tender was issued for procuring two main contracts for the supply and installation of APPLIES-2. Two contracts (Contracts A and B) were awarded to two contractors at a total one-off cost of \$272.7 million in November 2019, about one year after the time target (i.e. the fourth quarter of 2018) stated in the funding paper submitted to FC. In April 2020, the Project Steering Committee (PSC) endorsed a Project Management Plan with a “phased approach” in order to ensure a smooth transition of APPLIES-1 to APPLIES-2 before the expiry of APPLIES-1’s maintenance contract in February 2022. Phase 1 for existing functions of APPLIES-1 was planned to be rolled out by December 2021, while Phase 2 for new functions of APPLIES-2 was planned to be rolled out by October 2022. Since no maintenance support will be available for APPLIES-1 after February 2022, Audit considers that ImmD needs to ensure that the whole APPLIES-2 is rolled out as scheduled (paras. 4.3 to 4.5);
- (b) ***Need to strengthen ImmD’s project monitoring of APPLIES-2.*** ImmD has put in place a three-tier project governance structure comprising PSC, a Working Group and a Project Team to oversee the implementation of APPLIES-2. Audit noted that, since November 2019 (date of awarding Contracts A and B) and up to February 2021, PSC and the Working Group had not held regular meetings (either by on-site meeting or video conferencing) to monitor the project progress. Audit considers that ImmD

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needs to hold regular PSC and Working Group meetings to strengthen project monitoring (paras. 4.8 and 4.9); and

- (c) ***Monitoring and reporting of the use of unspent funds.*** In the funding paper submitted to FC, the project estimate of APPLIES-2 of \$453 million included an estimated sum of \$342.6 million for all hardware, software and implementation services based on the market research conducted by ImmD's consultant at the stage of feasibility study in March 2016 and the cost update conducted by ImmD in early 2018. In November 2019, the two main contracts under APPLIES-2 with a total one-off cost of \$272.7 million were awarded (Contracts A and B). Owing to the lower-than-expected tender prices received for Contracts A and B, there was a substantial saving (paras. 4.10 and 4.11). However, Audit noted the following inadequacies on monitoring and reporting of the use of unspent funds:
- (i) ***Need to critically review the cashflow requirements in submitting cashflow update to Security Bureau (SB) and FSTB.*** After the award of Contracts A and B, in January 2020, on behalf of ImmD, the Government Logistics Department awarded two further contracts (Contracts C and D) to two contractors at a total one-off cost of \$30.3 million for acquiring hardware and software items for APPLIES-2. As of March 2021, the total cashflow requirement of APPLIES-2 project was \$372.2 million, leaving an estimated unspent fund balance of \$80.8 million. However, Audit noted that in the annual returns on the forecast expenditure of the APPLIES-2 project submitted by ImmD to SB and FSTB from 2018 to 2020, the cashflow requirement in each of the submissions was \$453 million (which was the same as the approved project estimate) with no unspent fund balance (para. 4.12); and
- (ii) ***Reporting of surplus funds.*** According to Financial and Accounting Regulation 320, where Controlling Officers have reason to believe that funds surplus to requirements exist under a subhead, they shall immediately inform the Secretary for Financial Services and the Treasury so that the excess may be reserved. In view of the estimated unspent fund balance of \$80.8 million as of March 2021, ImmD needs to closely monitor the project expenditure and immediately report to FSTB if there is surplus fund in excess of project requirement (para. 4.13).

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Audit recommendations

10. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Immigration should:**

- (a) keep under review the manpower deployed on birth registration work in ImmD's births registries, and make adjustments where appropriate (para. 2.13(a));**
- (b) keep records on the processing time for birth registrations (para. 2.13(b));**
- (c) explore measures to strengthen the follow-up actions on unregistered birth cases, including:**
 - (i) incorporating details on handling cases warranting flexible handling in the guidelines on handling unregistered birth cases (para. 2.13(c)(i));**
 - (ii) drawing up more effective strategies in locating parents for conducting interviews (para. 2.13(c)(ii));**
 - (iii) keeping records on reporting the progress of outstanding cases in individual case files (para. 2.13(c)(iii)); and**
 - (iv) considering setting a time target for commencement of investigation of unregistered birth cases (para. 2.13(c)(iv));**
- (d) consider including the issue of a certified copy of a birth/death certificate involving search of records as one of the key performance measures in the CORs (para. 2.24(a));**
- (e) keep records on the processing time for death registrations and take measures to monitor the waiting time for death registrations (paras. 2.21(a) and 2.24(b));**

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- (f) **critically explore measures that can be taken to address the issue of non-compliance with BDO requirement of registering deaths from natural causes within 24 hours (para. 2.21(c));**
- (g) **consider exploring the feasibility of increasing the marriage ceremony quotas for Cotton Tree Drive Marriage Registry, Tsim Sha Tsui Marriage Registry, Sha Tin Marriage Registry and Tuen Mun Marriage Registry on Saturdays during festive seasons and on auspicious dates (para. 3.6(a));**
- (h) **take measures to ensure that persons included in ImmD's list of CCMs meet the eligibility criteria mentioned in MO (para. 3.14(a));**
- (i) **consider requiring dormant CCMs to attend refresher training course upon receiving their CCM renewal applications (para. 3.14(c));**
- (j) **expedite actions to clear the backlog of suspected bogus marriage cases, focusing on cases which have remained outstanding for a long time (para. 3.32(a));**
- (k) **step up checking of suspected bogus marriage cases (para. 3.32(b));**
- (l) **consider setting a time target for opening of case files for normal cases of suspected bogus marriages, similar to that for priority cases (para. 3.32(d));**
- (m) **ensure that supervisory checks of field operation are conducted as frequently as possible in accordance with ImmD's guidelines (para. 3.32(e));**
- (n) **review the case (Case 1) examined by Audit and draw lessons to step up efforts in locating suspects of bogus marriage cases in future (para. 3.32(f));**
- (o) **closely monitor the progress of APPLIES-2 implementation and strengthen ImmD's project monitoring of APPLIES-2 by holding regular PSC and Working Group meetings in future (paras. 4.6 and 4.14(a));**

Executive Summary

- (p) critically review the cashflow requirement of APPLIES-2 when submitting the cashflow update to SB and FSTB in future (para. 4.14(b)); and
- (q) closely monitor the project expenditure under APPLIES-2 and immediately report to FSTB if there is surplus fund in excess of project requirement (para. 4.14(c)).

Response from the Government

11. The Director of Immigration generally agrees with the audit recommendations.

PART 1: INTRODUCTION

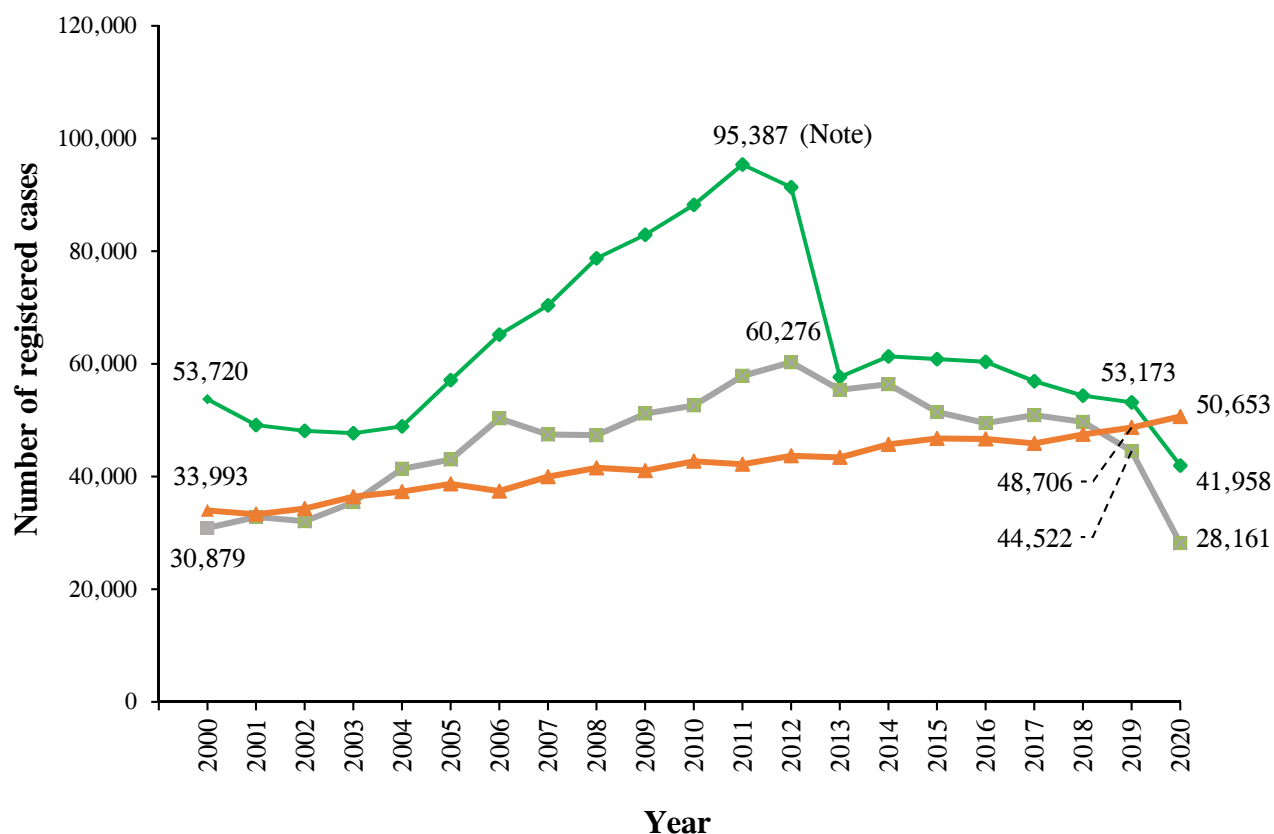
1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 According to the World Health Organization of United Nations, in most countries, a civil registration system is used to record statistics on vital events, such as births, deaths, marriages, divorces and fetal deaths. Such statistics are vital for the formulation of population policy. According to a document entitled “Population Policy” published by the Government, Hong Kong is facing a number of demographic challenges, including the rapid ageing of population, low birth rates, longer life expectancy, and insufficient labour force. Figure 1 shows the number of registered births, deaths and marriages for the period from 2000 to 2020.

Figure 1

Number of registered births, deaths and marriages (2000 to 2020)



Legend: ◆ Number of registered births
■ Number of registered marriages
▲ Number of registered deaths

Source: Census and Statistics Department (2000 to 2009) and Immigration Department (2010 to 2020) records

Note: According to the Census and Statistics Department, the implementation in 2013 of the zero-quota policy on obstetric services for Mainland women whose spouses are not Hong Kong residents was the key factor for the sharp decrease in registered births from 2011 to 2013 (see para. 2.2).

Remarks: The figures on birth, death and marriage registrations of 2020 were only available in early 2021 when the audit fieldwork had been substantially completed.

1.3 The Immigration Department (ImmD) is responsible for the registration of births, deaths and marriages (civil registration duties — see para. 1.2 and Note 1), and the provision of related services. According to the Births and Deaths Registration Ordinance (BDO — Cap. 174) and the Marriage Ordinance (MO — Cap. 181), the Registrar of Births and Deaths and the Registrar of Marriages are appointed by the Chief Executive of the Hong Kong Special Administrative Region. At present, the Director of Immigration is appointed as the Registrar of Births and Deaths and the Registrar of Marriages. Executive Officer grade staff posted to marriage registries and Immigration Officers posted to marriage registries or births and deaths registries are appointed as Deputy Registrars.

The Documents Sub-division

1.4 The Births, Deaths and Marriage (BDM) Registration (Operations) Section and the BDM Registration (Support) Section (collectively referred to as BDM Sections) under the Documents Sub-division of ImmD are responsible for providing services for registration of births, deaths and marriages to the public, as follows:

- (a) ***BDM Registration (Operations) Section.*** It is responsible for the management and operation of:
 - (i) four births registries, which comprise the Births and Deaths General Register Office (GRO — Note 2) in Admiralty and three other births registries located in Tsim Sha Tsui, Sha Tin and Tuen Mun (Note 3);

Note 1: *In July 1979, ImmD took over the civil registration duties from the then Registrar General's Department.*

Note 2: *GRO is a major registry which provides services for registration of births and deaths.*

Note 3: *On 1 March 2021, the Tuen Mun District Births Registry and the Tuen Mun Marriage Registry were relocated from the Tuen Mun Government Offices to the new ImmD Tuen Mun Regional Office in Tuen Mun Siu Lun Government Complex. The Regional Office provides one-stop services for the public, including registration of persons, travel document applications, extension of stay applications, and birth and marriage registrations.*

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- (ii) three deaths registries which comprise GRO and two other deaths registries located in Wan Chai and Cheung Sha Wan; and
 - (iii) five marriage registries which are located in Central (i.e. the City Hall Marriage Registry and the Cotton Tree Drive Marriage Registry), Tsim Sha Tsui, Sha Tin and Tuen Mun and the Marriage Registration and Records Office in Admiralty; and
- (b) ***BDM Registration (Support) Section.*** It is responsible for conducting procedural and legislative reviews, overseeing records management, compiling civil registration statistics, providing administrative support in respect of registration of births, deaths and marriages as well as processing the applications for appointment and renewal of Civil Celebrants of Marriages (CCMs — see para. 1.9) and licensing places of worship for celebration of marriages.

An organisation chart of the Documents Sub-division is at Appendix A. As at 31 December 2020, BDM Sections had an establishment of 193 staff. The registration of births, deaths and marriages and the provision of related civil registration services is under the programme area “Personal Documentation” (Note 4) of ImmD. According to ImmD’s Controlling Officer’s Report (COR), the total revised estimate of expenditure for the programme area in 2019-20 was \$1,304.6 million (Note 5).

Birth registration

1.5 According to BDO, every child born alive in Hong Kong shall be registered within 42 days after the day of such birth. Anyone who fails to register the birth of a child without reasonable excuse constitutes a criminal offence (Note 6). As of

Note 4: *The aims of the programme area are: (a) to counteract illegal immigration and enhance the maintenance of law and order by providing all legal residents with a secure form of identity card and all consequential services related to identity cards; (b) to register births, deaths and marriages and provide all consequential services related to such civil registration; (c) to assess right of abode claims; and (d) to facilitate international travel of Hong Kong residents by providing them with travel documents.*

Note 5: *According to ImmD, the expenditure breakdown for BDM Sections is not available.*

Note 6: *Upon conviction, offenders are liable to a maximum penalty of a fine of \$2,000 or imprisonment for 6 months.*

December 2020, there were four births registries in Hong Kong providing birth registration services (one on Hong Kong Island, one in Kowloon and two in the New Territories — see para. 1.4(a)(i)). Under the law, no fee is required for the registration of birth. However, a prescribed fee will be charged for post-registration of births after the prescribed 42 days and within 12 months after such birth. A birth that has not been registered within 12 months after such birth can be registered only with the consent of the Registrar of Births and Deaths (i.e. consented post-registration) and upon payment of a prescribed fee. In 2019, 53,173 births were registered. Of the 53,173 registered births, 1,854 births were post-registered and 5 births were consented post-registered.

Death registration

1.6 According to BDO, deaths from natural causes should be registered by the deceased's relatives or other relevant persons of the deceased within 24 hours. If a death results from an unnatural cause (e.g. poison or violence), the case is reported to a coroner who may conduct an inquest to determine the cause of death and then inform the Registrar of Births and Deaths to register the death. As of December 2020, there were three deaths registries (two on Hong Kong Island and one in Kowloon) providing free registration service (see para. 1.4(a)(ii)). Deaths in rural areas may be registered at the 15 designated police stations in the New Territories and outlying islands (e.g. in Cheung Chau and Mui Wo). In 2019, 48,706 deaths were registered.

Marriage registration

1.7 Marriages in Hong Kong are governed by MO and the Marriage Reform Ordinance (Cap. 178). Either one of the marrying parties (Note 7) shall give at least 15 clear days' notice (i.e. 15 calendar days after the date of giving notice) of an intended marriage either in person or through a CCM to the Registrar of Marriages. The notice will be exhibited at both the marriage registries (other than the Cotton Tree

Note 7: *There are no residential requirements on the marrying parties and they may be of any nationality. However, either party to a marriage must not be under the age of 16.*

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Drive Marriage Registry and City Hall Marriage Registry — Note 8) and the Marriage Registration and Records Office in Admiralty for at least 15 clear days. The marriage must take place within three months from the date of giving the notice if no objection is received.

1.8 Marriage may take place at any of the five marriage registries (see para. 1.4(a)(iii)) or the 272 (as at 10 July 2020) licensed places of worship in Hong Kong, including churches and the Hindu Temple in Happy Valley. Moreover, marrying parties may also engage a CCM to celebrate their marriages at any places other than the marriage registries or licensed places of worship. In 2019, out of the 44,522 registered marriages (including 2 post-registered marriages — Note 9), 20,315 (45.6%) marriages were celebrated/registered at the marriage registries, 1,702 (3.8%) were celebrated in licensed places of worship and 22,505 (50.6%) were conducted by CCMs.

1.9 **CCM Scheme.** To provide more choices for flexible marriage solemnisation services to the public and to make use of private sector resources in providing such services, MO was amended on 13 March 2006 (Note 10) to empower the Registrar of Marriages to appoint CCMs (Note 11) and to enable:

- (a) a notice of intended marriage to be given via a CCM to the Registrar;
- (b) a certificate of the Registrar to be transmitted to the parties via a CCM before a marriage is proceeded; and

Note 8: *If a marriage is intended to be celebrated at the Cotton Tree Drive Marriage Registry or the City Hall Marriage Registry, the notice of intended marriage has to be filed at the Marriage Registration and Records Office.*

Note 9: *Both parties to a customary or validated marriage in Hong Kong before 7 October 1971 may apply for post registration of the marriage.*

Note 10: *Under the amended MO, the Registrar of Marriages has issued a Code of Practice for CCMs to provide practical guidance in respect of the professional conduct of CCMs. After the publication of the Code of Practice in the Gazette, the Registrar started inviting applications for appointment as a civil celebrant in March 2006.*

Note 11: *According to Schedule 4 of MO, a CCM is either a solicitor or a notary public who satisfies the conditions as set out in the Schedule (e.g. holding a prescribed legal qualification). A CCM has to complete such training organised for the purposes of MO as the Registrar of Marriages may specify.*

- (c) a marriage to be celebrated before a CCM at any time and place, other than the office of the Registrar of Marriages or a Deputy Registrar of Marriages (a “marriage registry”) or a place of worship licensed under MO.

As at 20 November 2020, there was a total of 2,277 appointed CCMs. In 2019, out of the 44,522 registered marriages, 22,505 (50.6%) were solemnised by CCMs (Note 12).

1.10 ***Bogus marriages.*** According to a paper submitted by the Security Bureau (SB) to the Legislative Council (LegCo) Panel on Security in May 2018:

- (a) the Government has always been concerned about bogus marriages (Note 13) which undermine the integrity of the immigration system of Hong Kong on the one hand, and pose an undue burden on public services (e.g. medical, education and housing services) on the other; and
- (b) any person who makes use of bogus marriage to obtain the requisite documents for the purpose of entering Hong Kong, or any person who facilitates others to achieve such purpose through arranging bogus marriages for them, shall be guilty of an offence. In the course of contracting bogus marriages and applying for entries into Hong Kong through such marriages, the persons involved may have committed offences such as conspiracy to defraud, making false representation to ImmD officers, making a false oath, giving false declaration, bigamy, etc., and are liable on conviction to imprisonment for up to 14 years (see Appendix B). In 2006, ImmD set up a special task force to step up enforcement actions against persons seeking entry into Hong Kong by means of bogus marriages and intermediaries aiding others to seek entry into Hong Kong through such means.

Note 12: *According to ImmD, although CCMs have taken up around 51% of the marriage solemnisation cases, the workload at the marriage registries has not decreased to the same extent as ImmD is still involved in the exhibition and filing of marriage notices, matching of the returned duplicate marriage certificate with the marriage notice records, etc.*

Note 13: *According to ImmD, bogus marriage is a bogus matrimonial relationship in which a non-local resident obtained residence status or service in Hong Kong through such marriage by means of conspiracy to defraud, making false statement to immigration officers, making false oath or bigamy.*

Introduction

In 2019, ImmD investigated into 644 suspected bogus marriages cases. In the same year, 1,095 persons were arrested and 71 persons were successfully prosecuted.

Search of birth, death or marriage records

1.11 A person can apply for a certified copy of an entry in the births/deaths register if he has the original or a photocopy of the certificate of registration, or the result of a previous search. Otherwise, he will need to apply for a search of the records first. If a person wants to obtain a certified copy of a marriage certificate, he will also need to apply for a search unless the copy is applied at the same time as the original is issued. Certified copy of such records may be issued on application upon payment of prescribed fees. Besides, ImmD also issues Certificate of Absence of Marriage Record (CAMR) upon application. In 2019, 194,220 certified copies of certificates of birth, death or marriage and 19,818 CAMRs were issued.

Performance reporting

1.12 The key performance targets and indicators on managing birth, death and marriage registrations as reported by ImmD in its CORs for 2015 to 2019 are shown in Tables 1 and 2 respectively.

Table 1

**Key performance targets
(2015 to 2019)**

Key performance target	Target (%)	2015	2016	2017	2018	2019
		Actual (%)				
(a) Normal processing time per application/case						
(i) certified copy of birth/death/marriage/adoption certificate (Note 1) within nine working days (Note 2)	100	100	100	100	N.A.	N.A.
(ii) certified copy of birth/death/marriage certificate within seven working days (Note 2)	100	N.A.	N.A.	N.A.	100	100
(iii) certified copy of adoption certificate within nine working days (Note 2)	100	N.A.	N.A.	N.A.	100	100
(b) Standard processing time at counter						
(i) birth/death/adoption registration within 30 minutes	100	99.7	99.5	99.5	99.6	99.7
(ii) marriage notice within 30 minutes	100	99.9	99.9	99.9	99.7	99.6

Legend: N.A. = Not applicable

Source: ImmD records

Note 1: Adoption certificate is a certified copy of any entry in the Adopted Children Register maintained by the Registrar of Births and Deaths according to the Adoption Ordinance (Cap. 290).

Note 2: With effect from 28 June 2018, the target for issue of birth/death/marriage certificates has been reduced from nine to seven working days, and during 2018, the nine and seven working day targets in the respective periods were all met. The target for issue of adoption certificates has remained at nine working days.

Table 2

**Key performance indicators
(2015 to 2019)**

Key performance indicator	2015	2016	2017	2018	2019
	Actual				
(a) Birth/death/adoption registrations	107,718	107,130	102,879	101,916	101,939
(b) Marriage registrations (Note 1)					
(i) processing of notice of intended marriage	53,646	51,826	54,874	51,246	45,807
(ii) marriage solemnisation (by CCMs)	26,219	25,292	26,307	25,713	22,505
(iii) marriage solemnisation (other than by CCMs)	25,228	24,213	24,596	23,984	22,015
(c) Birth/death/marriage/adoption certificates issued (Note 2)	172,977	173,683	175,861	188,100	214,258
(d) Appointment of CCMs	118	98	120	113	96

Source: ImmD records

Note 1: According to ImmD, its COR aims to report the marriages registered within the reporting period and hence the number of post-registered marriages is excluded.

Note 2: This indicator includes the number of CAMRs issued (see para. 3.4).

Application and Investigation Easy Systems

1.13 ImmD's information and communications technology systems are instrumental to its vital operation for delivering services to the public. The processing of birth, death and marriage registrations is supported by the Application and Investigation Easy Systems (APPLIES) (Note 14). The first generation of APPLIES (APPLIES-1) was implemented in phases from 2007 to 2008 with a design usage life of about 10 years. The maintenance contract for APPLIES-1, which expired in February 2019, was extended for another three years until February 2022. In May 2018, the Finance Committee (FC) of LegCo approved a sum of \$453 million for implementing the next generation of APPLIES (APPLIES-2). APPLIES-2 is planned to be rolled out by phases from the fourth quarter of 2021 to the second quarter of 2022.

Audit review

1.14 In 2001, the Audit Commission (Audit) completed a review of "Registrations of births, deaths and marriages", the results of which were included in Chapter 1 of the Director of Audit's Report No. 37 of October 2001. In 2011, Audit completed a review of "Immigration Department: Operation of the Enforcement Division" which covered, among others, the investigation of bogus marriages by ImmD, the results of which were included in Chapter 8 of the Director of Audit's Report No. 56 of March 2011.

1.15 In November 2020, Audit commenced a review to examine the management of birth, death and marriage registrations by ImmD, focusing on:

- (a) registration of births and deaths (PART 2);
- (b) registration of marriages (PART 3); and
- (c) implementation of next generation of Application and Investigation Easy Systems (PART 4).

Note 14: *APPLIES also supports various functions such as processing of applications for visas, permits and travel passes.*

Introduction

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from the Government

1.16 The Director of Immigration generally agrees with the audit recommendations.

Acknowledgement

1.17 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of ImmD during the course of the audit review amid the COVID-19 epidemic.

PART 2: REGISTRATION OF BIRTHS AND DEATHS

2.1 This PART examines the work of ImmD in the management of registration of births and deaths, focusing on:

- (a) management of births registries (paras. 2.2 to 2.14);
- (b) management of deaths registries (paras. 2.15 to 2.22); and
- (c) performance reporting (paras. 2.23 to 2.25).

Management of births registries

2.2 According to ImmD, parents are required to register the birth of their children in accordance with BDO, so as to avoid undermining the rights of their children to medical treatment, education and welfare benefits due to late registration. From 2000 to 2019, the number of registered births decreased slightly by 1% from 53,720 to 53,173 (see Figure 1 in para. 1.2). During the period, the number of registered births increased steadily from 48,914 in 2004 to a peak of 95,387 in 2011, then dropped significantly by 40% to 57,651 in 2013. According to the Census and Statistics Department (C&SD), among the factors for the sharp decrease in registered births (Note 15), the implementation in 2013 of the zero-quota policy on obstetric services for Mainland women whose spouses are not Hong Kong residents was the key factor. As a result of the implementation of the zero-quota policy in 2013, the number of babies born in Hong Kong to Mainland women whose spouses were not Hong Kong permanent residents dropped significantly by 99% from a peak of 35,736 in 2011 to a low level, at only 393 in 2019 (Note 16).

Note 15: *Other factors include: (a) marriage postponement; (b) increased prevalence of spinsterhood; (c) decreased marital fertility rates for women; and (d) increased divorce rates.*

Note 16: *According to C&SD, this type of babies may still arise in reality. For example, those whose fathers were admitted through one-way permits who have yet to become Hong Kong permanent residents.*

Need to keep under review the manpower deployment of births registries

2.3 For each births registry, ImmD has set internal birth registration quotas (the number of cases which can be processed each day) for weekdays and Saturdays with reference to the available manpower resources and office space. In order to monitor the utilisation of various registries, ImmD has compared the birth registration quotas of individual registries with their actual workload. Table 3 shows the utilisation rates of birth registration quotas for individual births registries from January 2015 to October 2020.

Table 3

**Utilisation rates of birth registration quotas at individual births registries
(January 2015 to October 2020)**

Registry	Birth registration quota (Number)		Utilisation rate (Note)					
			2015	2016	2017	2018	2019	2020 (up to October)
			(%)					
GRO	Weekdays	55	96	95	90	86	87	84
	Saturdays	15	99	98	97	98	97	96
Kowloon Births Registry	Weekdays	129	89	87	82	76	74	71
	Saturdays	50	96	96	97	96	96	94
Sha Tin District Births Registry	Weekdays	50	85	86	80	77	76	74
	Saturdays	13	96	97	95	97	97	97
Tuen Mun District Births Registry	Weekdays	35	59	61	58	56	53	54
	Saturdays	10	95	95	95	97	95	93

Source: ImmD records

Note:
$$\text{Utilisation rate} = \frac{\text{Quota used}}{\text{Birth registration quota}} \times 100\%$$

Remarks: In order to reflect a normal working situation, the following days were excluded by ImmD in calculating the utilisation rates: (a) the working days with Tropical Cyclone Warning Signals Number 8 or above hoisted; and (b) the periods under the Government's special work-from-home arrangements from 29 January to 1 March 2020, 23 March to 3 May 2020 and 20 July to 6 September 2020.

2.4 As noted in the 2001 audit review (see para. 1.14), the staff establishment in 2000 for GRO which was responsible for birth registration was 47 (Note 17) and that for the Kowloon Births Registry (KBR) was 26. After a lapse of 19 years, the staff establishment in 2019 for GRO which was responsible for birth registration

Note 17: The number did not include the staff establishment of the Marriage Registration and Records Office, which shared the same office with GRO.

Registration of births and deaths

decreased to 43 (Note 18) and that for KBR remained at 26. However, birth registration quotas of both births registries decreased. For example, as shown in Table 4, the birth registration quota of GRO decreased from 80 by 31% to 55 during weekdays, while that of KBR decreased from 160 by 19% to 129. The utilisation rates of birth registration quotas for GRO and KBR generally increased from 2000 to 2019. However, if the birth registration quotas of the two registries had been kept at the same level as that in 2000, their 2019 utilisation rates would have been lower than those shown in Table 4 (i.e. reduction by 14 to 27 percentage points).

Table 4

**Analysis of the birth registration quotas and
their utilisation rates at two births registries
(2000 and 2019)**

Registry	Birth registration quota			Utilisation rate (Note)	
		2000	2019	2000	2019
		(Number)		(%)	
GRO	Weekdays	80	55	62	87
	Saturdays	20	15	110	97
KBR	Weekdays	160	129	61	74
	Saturdays	60	50	82	96

Source: Audit analysis of ImmD records

Note:
$$\text{Utilisation rate} = \frac{\text{Quota used}}{\text{Birth registration quota}} \times 100\%$$

Remarks: If the birth registration quotas in 2019 had been kept at the same level as that in 2000, the utilisation rates in 2019 would have been reduced by 14 to 27 percentage points.

Note 18: The number did not include the staff establishment of the Marriage Registration and Records Office and the CCM Unit under the City Hall Marriage Registry, which shared the same office with GRO.

2.5 Audit noted that there had not been any substantial change to the birth registration procedures causing a significant increase in workload per case since 2000. Audit had made enquiries with ImmD on the reasons for the reduction in the birth registration quotas while the staff establishments responsible for birth registration of the two registries had only slightly decreased or remained unchanged from 2000 to 2019. In March 2021, ImmD informed Audit that:

- (a) the birth registration quotas had been reviewed and reduced in accordance with demand for registration service in 2013 after the implementation of the zero-quota policy on obstetric services for Mainland women whose spouses are not Hong Kong residents (see para. 2.2);
- (b) in addition to birth registration, GRO is also responsible for registration of death from unnatural causes, handling search of BDM records and applications for certified copies of BDM certificates. For KBR, workload of other services (e.g. handling search of birth records and applications for certified copies of birth certificates) increased significantly. In light of the reduction in demand for birth registration, KBR has also provided a new one-stop service for birth registration-cum-application for the Hong Kong Special Administrative Region Re-entry Permits since 2014. Despite the decrease of birth registration quota, the manpower of KBR had been redeployed to handle workload of duties other than birth registration. As compared with the workloads of 2000, the amount of other services of the four births registries had increased significantly from 2000 to 2014. For both the search of birth records and the search of marriage records, the workload had further increased by over 40% from 2014 to 2019 (see Table 5); and
- (c) it had conducted manpower review from time to time and made adjustments where appropriate. Following the implementation of the zero-quota policy on obstetric services for Mainland pregnant women whose spouses were not Hong Kong residents, a review of the manpower of KBR had been conducted.

As mentioned in paragraph 2.2, the number of registered births decreased slightly by 1% from 53,720 in 2000 to 53,173 in 2019. However, the number of registered births decreased significantly by 21% from 53,173 in 2019 to 41,958 in 2020, resulting in the first natural population decrease since 1960s. In Audit's view, ImmD should keep under review the manpower deployed on birth registration work in its births registries, and make adjustments where appropriate.

Registration of births and deaths

Table 5

**Comparison of workloads of duties other than
birth registration undertaken by the four births registries of ImmD
(2000, 2014 and 2019)**

Type of work	2000	2014	2019	2000 vs 2014 Increase/ (Decrease)	2014 vs 2019 Increase/ (Decrease)
	(a)	(b)	(c)	$(d) = \frac{(b)-(a)}{(a)} \times 100\%$	$(e) = \frac{(c)-(b)}{(b)} \times 100\%$
	(Number)			(%)	
Registration of deaths from unnatural causes	7,938	10,901	10,782	37	(1)
Search of birth records	3,351	8,274	13,810	147	67
Search of marriage records	11,450	14,490	21,109	27	46
Application for CAMRs	27,155	31,499	32,106	16	2
Application for the Hong Kong Special Administrative Region Re-entry Permits (Note)	N.A.	13,895	12,223	N.A.	(12)

Legend: N.A. = Not applicable

Source: Audit analysis of ImmD records

Note: Since 2014, KBR has provided a new one-stop service for birth registration-cum-application for the Hong Kong Special Administrative Region Re-entry Permits (see para. 2.5(b)).

Need to keep records on the processing time for birth registrations

2.6 ImmD pledges to process a birth registration within 30 minutes at counter (see Table 1 in para. 1.12). According to ImmD's COR, ImmD met the standard processing time of within 30 minutes in 99.7% of the birth/death/adoption registration cases in 2019. However, Audit noted that the births registries did not keep records on the processing time of cases at counter. In response to Audit's enquiry on how the performance pledge on processing time for birth registrations was calculated without keeping such records, in March 2021, ImmD said that during the processing of birth/death registrations, counter officers were tasked to closely monitor the processing time of each case. If the processing time exceeded 30 minutes (e.g. complicated cases involving statutory declarations, determination of legitimacy, overseas documents and clarification of condition of stay), the counter officer would record the reason and report to the deputy officer-in-charge who would compile relevant statistics on a regular basis. Audit visited GRO and KBR on 8 and 9 February 2021 respectively to conduct sample checking and found the following:

- (a) **GRO.** On 8 February 2021, 6 counters (including 2 counters designated for issuing quota tags — Note 19) were in operation for birth registration and related services. For the 32 sampling cases examined by Audit, the average time required to process an application was 13 minutes (ranging from 8 to 23 minutes) and the average waiting time for counter services was 24 minutes (ranging from 7 to 42 minutes); and
- (b) **KBR.** On 9 February 2021, 11 counters (including 2 counters designated for issuing quota tags) were in operation for birth registration and related services. For the 78 sampling cases examined by Audit, the average time required to process an application was 12 minutes (ranging from 5 to 23 minutes) and the average waiting time for counter services was 20 minutes (ranging from 6 to 36 minutes).

According to Financial Services and the Treasury Bureau (FSTB) guidelines, Controlling Officers should satisfy themselves that proper performance records are maintained and, as far as practicable, can be validated. In order to improve the

Note 19: *Since March 2010, application for birth registration may only be accepted through prior appointment made by telephone or through the Internet. When a parent shows up at the reception counter of a births registry, ImmD staff will check the required documents (e.g. identity cards) to confirm that an advance booking has been made and issue a quota tag to the parent accordingly.*

provision of management information on birth registrations, ImmD needs to keep records on the processing time for birth registrations.

Scope for improvement in handling unregistered birth cases

2.7 ***Unregistered birth cases.*** According to BDO, it shall be the duty of every registrar to procure by all means in his power the best and most accurate information respecting any birth which may have occurred and to cause the same to be registered. In April 2015, a 15-year-old girl plunged to her death from a building. It was later discovered that the girl and her younger sister were born in Hong Kong, but their parents had never registered their births. The tragic incident aroused wide public concern about whether the well-being of children without a birth certificate are adequately protected, as well as the social problems (such as child abuse, illegal immigration and human trafficking) that may arise as a result. In August 2015, the Office of the Ombudsman commenced a direct investigation of ImmD's mechanism for following up on unregistered birth cases. In June 2018, the Ombudsman released the investigation report which made a number of recommendations to improve the birth registration procedures (Note 20).

2.8 ***Follow-up actions on unregistered birth cases.*** Unregistered birth cases are handled by the BDM Registration (Operations) Section under the Documents Sub-division and the General Investigation Section (GIS) (Note 21) under the Investigation Sub-division of ImmD (see Appendix C) as follows:

Note 20: *The recommendations made to ImmD included:*

- (a) *strengthening its communication and coordination with hospitals with a view to solving the problem of incomplete address on birth returns, and initiating early interventions in cases of unregistered birth;*
- (b) *enhancing its public education campaign to emphasise how failure to complete birth registration promptly can cause harm to children, and what legal consequences the parents may face; and*
- (c) *taking the lead to study with other relevant departments possible ways to strengthen the existing follow-up mechanism, including the feasibility of establishing a mandatory notification mechanism.*

Note 21: *In May 2015, ImmD introduced a new mechanism for follow-up on unregistered birth cases. Under the new mechanism, if a birth registration remains outstanding for a certain period of time after birth, the BDM Registration (Operations) Section would refer the case to GIS for follow-up.*

- (a) ***BDM Registration (Operations) Section.*** As a result of the tragic incident of April 2015 (see para. 2.7), ImmD had revised its procedures in handling of unregistered birth cases to enhance the monitoring of such cases. In February 2018, a Special Duty Team led by a Senior Immigration Officer and an Immigration Officer was established under the BDM Registration (Operations) Section. According to BDM General Office Instruction No. 2/2018 “Revised Procedures on Handling of Unregistered Birth Cases”, with effect from 1 March 2018, the Special Duty Team was responsible for closely monitoring birth cases with registrations outstanding for 43 days or more from the date of birth of the child and taking timely follow-up actions including:
- (i) ***upon 43 days from the date of birth of the child,*** conducting record checks (e.g. the condition of stay of parents, parents’ details and address on birth returns from public and private hospitals (Note 22) and infant death cases), contacting parents by phone and issuing first reminder letter;
 - (ii) ***three months after issuing first reminder letter,*** issuing second reminder letter and considering to pay a home visit to the known address of the parents if the birth registration is still outstanding after two weeks from the issuance of second reminder letter; and
 - (iii) ***upon six months from the date of birth of the child,*** referring unregistered birth cases to GIS for investigation on the suspected offence of the parents (see (b) below); and
- (b) ***GIS.*** GIS performs investigations for unregistered birth cases referred from the BDM Registration (Operations) Section. As at 31 December 2020, GIS had an establishment of 7 staff members (headed by a Senior Immigration Officer, who was supported by 2 Immigration Officers and other 4 supporting staff) responsible for handling unregistered birth cases. Upon receipt of the cases from the BDM Registration (Operations) Section, GIS will take actions including:

Note 22: *For the purpose of birth registration, all public and private hospitals are required to furnish their designated births registry a birth return of any newborn. These birth returns are submitted to ImmD on a daily basis via an electronic birth returns system.*

Registration of births and deaths

- (i) retrieving all related departmental records for opening an investigation file; and
- (ii) locating the subject parents by various means for investigation, including conducting field visits. If the subject parents can be successfully located, an interview will be arranged with them for securing evidence for the case. If the evidence is in order, the case will be summarised and put forward to the Prosecution Section of ImmD for consideration of prosecution actions. After all actions have been completed, the investigation file will be returned to the BDM Registration (Operations) Section for information.

2.9 ***Birth statistics.*** During the period from January 2015 to October 2020, there were 322,603 birth registrations. As shown in Table 6, 19,300 (6% of 322,603) births were registered after 42 days from date of birth of the child, and among these, 733 (4% of 19,300) births were registered after 180 days from the date of birth of the child.

Table 6

**Ageing analysis of birth registration
(January 2015 to October 2020)**

Year	Time lapsed for completing birth registration after the date of birth of the child			Total (d) = (a) + (b) + (c)
	Within 42 days (a)	Between 43 and 180 days (b)	Over 180 days (c)	
	(Number)			
2015	57,476	3,134	247	60,857
2016	57,166	3,030	175	60,371
2017	53,857	2,887	175	56,919
2018	51,925	2,329	102	54,356
2019	51,202	1,960	11	53,173
2020 (up to October)	31,677	5,227 (Note)	23 (Note)	36,927
Total	303,303	18,567	733	322,603

19,300 (6% of 322,603)

Source: Audit analysis of ImmD records

Note: According to ImmD, in view of the COVID-19 epidemic situation, it had implemented special service arrangements for several times in 2020 to reduce the risk of the spread of COVID-19 as a result of the gathering of applicants at its births registries. Hence, birth registration service had been suspended intermittently in 2020, resulting in a higher-than-usual number of birth registrations beyond 42 days.

2.10 **Need to improve guidelines on handling unregistered birth cases by the BDM Registration (Operations) Section.** Audit examination found that there was scope for improving the guidelines on handling unregistered birth cases by the BDM Registration (Operations) Section. According to ImmD, there were 150 unregistered birth cases (i.e. registration outstanding for 43 days or more from the date of birth of the child) as at 31 October 2020. Audit analysis of these 150 unregistered birth cases revealed that:

Registration of births and deaths

- (a) according to ImmD's guidelines, a first reminder letter should be sent to the parents upon 43 days from the date of birth of the child (see para. 2.8(a)(i)). Of these 150 cases, first reminder letters had not been sent to the parents in 43 (29%) cases. For the remaining 107 cases with first reminder letters sent to the parents, there were delays of 1 to 61 days (averaging 6 days) in sending the letters in 95 (89% of 107) cases;
 - (b) according to ImmD's guidelines, a second reminder letter should be sent to the parents three months after sending the first reminder letter (see para. 2.8(a)(ii)). For the 53 cases falling under this category, Audit found that second reminder letters had not been sent to the parents in 31 (58%) cases. Of the 22 cases with second reminder letters sent to the parents, there were delays of 1 to 55 days (averaging 21 days) in sending the letters in 16 (73% of 22) cases; and
 - (c) according to ImmD's guidelines, birth cases unregistered for six months from the date of birth of the child will be referred to GIS for investigation (see para. 2.8(a)(iii)). As at 15 December 2020, birth registration for 110 of the 150 cases had been completed. For the remaining 40 (150 less 110) cases, 7 cases had been outstanding for over six months, but 5 (71% of 7) cases had not been referred to GIS.
- 2.11 In March 2021, ImmD informed Audit that:
- (a) officers of BDM Registration (Operations) Section had followed the guidelines as stipulated in BDM General Office Instruction No. 2/2018 "Revised Procedures on Handling of Unregistered Birth Cases" (see para. 2.8(a)) to handle unregistered birth cases which had been in place since 2018. The mechanism has been proven effective in deterring deliberate delays;
 - (b) as at 18 March 2021, birth registration for 138 of the 150 cases had been completed and the remaining 12 (150 less 138) cases were outstanding pending submission of documents required for birth registration; and
 - (c) at present, the Special Duty Team officers should strictly comply with the timeline for sending reminders as stipulated in the guidelines. The cases as identified by Audit in paragraph 2.10(a) to (c) were cases warranting

flexible handling (see Appendix D) as delineated in ImmD's guidelines (see (a)). For these cases, the Special Duty Team member would refer the cases to a designated Immigration Officer for endorsement and decide on the alternate course of actions and ensure that such actions are properly recorded. For cases in which relevant actions had not been taken after reaching the timeline, the Special Duty Team member would record the reason. The common reasons warranting flexible handling include cases where:

- (i) appointment for birth registration had already been scheduled;
- (ii) parents/the Social Welfare Department (SWD) had been successfully contacted and reasons for the delay had been acknowledged; and
- (iii) service suspension/special work arrangements had been in place due to the COVID-19 epidemic.

Audit noted that ImmD's guidelines (see para. 2.8(a)) had not promulgated the details for handling cases warranting flexible handling. Audit considers that ImmD needs to amend its guidelines as appropriate.

2.12 *Scope for improvement in taking follow-up actions on unregistered birth cases by GIS.* Audit examination found that there was room for improvement in taking follow-up actions on unregistered birth cases by GIS. From June 2018 to 31 October 2020, 15 unregistered birth cases were referred to GIS for investigation. As at 31 December 2020, 11 of the 15 unregistered birth cases had been closed while the remaining 4 were still under investigation. Audit examination of these 11 completed investigation cases found that:

- (a) in 1 case, there was room for improvement in taking follow-up actions to locate the parents. In November 2018, GIS commenced investigation work to locate the parents of a child by conducting record check with other government departments. During the period from November 2018 to February 2019, GIS tried to contact the parents by phone once in each month. On each occasion, GIS tried to phone the parents on weekdays with the same set of phone numbers. In March 2019, GIS conducted field visits but still failed to locate the parents. GIS could only contact one parent who

was intercepted by ImmD in December 2019 when prosecution had already been time-barred (Note 23), and hence ImmD had not instigated any prosecutions. Had ImmD stepped up its measures to locate the parents (e.g. contacting the parents on Saturdays/Sunday/public holidays), the parents might have been located earlier. Audit considers that ImmD needs to draw up more effective strategies in locating parents of unregistered birth cases for conducting interviews;

- (b) according to ImmD, any investigation cases which cannot be completed within four months will be reported to the Senior Immigration Officer for information and directive. Audit examination of the individual case files revealed that, in 3 cases, there was no documentation on the reporting of the case progress to the Senior Immigration Officer within four months after the commencement of respective case investigation. In March 2021, ImmD informed Audit that these 3 cases were put up for discussion among Senior Immigration Officer and Immigration Officers within four months in group meetings. In the group meetings, Immigration Officers had reported the progress of the outstanding cases under their purview and brought up special cases for timely guidance and directive from the Senior Immigration Officer. Although the brought-up actions had been recorded in a designated register, the related discussions had not been recorded in individual case files for better case management and monitoring; and
- (c) ImmD's guidelines on handling unregistered birth cases had not set any time target for commencement of investigation. While GIS took an average of about 5 days (including non-working days) to commence investigation work after receiving these 11 cases from the BDM Registration (Operations) Section, for better case management and monitoring purpose, there is merit for ImmD to consider setting a time target for commencement of investigation.

Note 23: *According to the Magistrates Ordinance (Cap. 227), in any case of an offence, other than an indictable offence, where no time is limited by any enactment for making any complaint or laying any information in respect of such offence, such complaint shall be made or such information laid within 6 months from the time when the matter of such complaint or information respectively arose. For unregistered birth case, prosecution action should be taken within 6 months from the date of birth registration. In this case, SWD was appointed the guardian of the child and completed the birth registration in December 2018 (i.e. the case was time-barred in June 2019).*

Audit recommendations

- 2.13 **Audit has *recommended* that the Director of Immigration should:**
- (a) **keep under review the manpower deployed on birth registration work in ImmD's births registries, and make adjustments where appropriate;**
 - (b) **keep records on the processing time for birth registrations; and**
 - (c) **explore measures to strengthen the follow-up actions on unregistered birth cases, including:**
 - (i) **incorporating details on handling cases warranting flexible handling in the guidelines on handling unregistered birth cases;**
 - (ii) **drawing up more effective strategies in locating parents for conducting interviews;**
 - (iii) **keeping records on reporting the progress of outstanding cases in individual case files; and**
 - (iv) **considering setting a time target for commencement of investigation of unregistered birth cases.**

Response from the Government

2.14 The Director of Immigration generally agrees with the audit recommendations. He has said that:

- (a) ImmD will continue to conduct review on manpower deployment in accordance with the demand for provisions of various services from time to time and make adjustments where appropriate;
- (b) ImmD will explore the feasibility of introducing a new system function to keep track of the processing time for birth registrations in APPLIES-2, which is expected to roll out by phases from the fourth quarter of 2021;

Registration of births and deaths

- (c) as the circumstances in each unregistered birth case vary and there are unforeseeable factors affecting the operation of birth registrations (e.g. the COVID-19 epidemic), it is not feasible to stipulate exhaustively the course of actions. That said, ImmD will strengthen the relevant parts of the guidelines on handling unregistered birth cases by citing examples of common scenarios warranting flexible handling for officers' reference;
- (d) while strenuous efforts had already been exerted to locate the parents concerned in the case identified by Audit (see para. 2.12(a)), ImmD officers will stay vigilant in formulating comprehensive strategies in locating parents for investigation;
- (e) it is agreed that the relevant case officers handling unregistered birth cases should have recorded the direction and supervision given in individual case file to reflect the Senior Immigration Officer's due supervision within four months after the commencement of respective case investigation for better record management. ImmD will recirculate the relevant guidelines for reminding the case officers to strictly follow the management of outstanding investigation cases; and
- (f) ImmD will set a time target for commencement of investigation of unregistered birth cases. To tie in with this requirement, supplementary guidelines for handling unregistered birth cases will be formulated to provide a clear timeframe for commencement of investigation.

Management of deaths registries

2.15 A death certificate (i.e. a certified copy of an entry in the deaths register) is an important legal document for insurance claim and transfer of title of real and personal property. A relative of the deceased or other relevant person needs to register a death with ImmD before the death certificate can be issued. Statistics on death registrations are used to compile the mortality statistics which in turn are used for a variety of medical and health-related research efforts and to set public health goals and policies.

2.16 *Increase in demand for ImmD's death registration services.* According to C&SD, the age-sex specific mortality rates for both genders and all age groups in Hong Kong have been decreasing continuously, reflecting that residents of Hong Kong

tend to live longer along with advancement in healthcare services. The population of elderly (aged 65 and over) rose steadily from 0.46 million (8.1% of the population) in 1988 to 1.32 million (17.6% of the population) in 2019. The overall mortality rates and the number of deaths showed an increasing trend during this period. As a result, the number of death registrations increased from 42,705 in 2010 by 14% to 48,706 in 2019 and demand for other death related services offered by ImmD also increased:

- (a) ***Number of death certificates issued.*** The number increased by 131% from 29,438 in 2010 to 68,036 in 2019 (Note 24); and
- (b) ***Search of death records.*** The number of searches increased by 49% from 6,859 in 2010 to 10,211 in 2019.

Despite the significant increase in workload, the number of staff deployed for providing death registration services at the Hong Kong Island Deaths Registry (4 staff) and the Kowloon Deaths Registry (8 staff) had remained unchanged. According to ImmD, this might lead to a longer waiting time for the services and it would monitor the waiting time to ensure that it is reasonable and acceptable. In this connection, Audit notes that the processing time for death registration does not include waiting time (see para. 2.23(b)).

Need to keep records on the processing time for death registrations

2.17 ImmD pledges to process a death registration within 30 minutes at counter (see Table 1 in para. 1.12). Similar to birth registrations (see para. 2.6), ImmD had not kept records on the processing time for death registration cases. According to ImmD's COR, ImmD met the pledge in 99.7% of the birth/death/adoption registration cases in 2019. Audit visited the Hong Kong Island Deaths Registry and the Kowloon Deaths Registry (Note 25) on 11 and 12 January 2021 respectively to conduct checking and found the following:

Note 24: *According to BDO, any person can apply for more than one death certificate.*

Note 25: *The Hong Kong Island Deaths Registry and the Kowloon Deaths Registry handled 99.5% of registration of natural deaths for the period from January 2015 to October 2020. GRO handled registration of natural deaths only on Sundays and General Holidays from 10 a.m. to 12:30 p.m.*

Registration of births and deaths

- (a) ***Hong Kong Island Deaths Registry.*** On 11 January 2021, three counters were in operation providing death registration and related services. The average time required to process an application was 12.5 minutes and the average waiting time for counter services was 6 minutes (ranging from no waiting time to the longest waiting time of 29 minutes); and
- (b) ***Kowloon Deaths Registry.*** On 12 January 2021, six counters (including one counter designated for issuing tickets) were in operation for death registration and related services. Audit noted that there was an electronic ticketing system at the Kowloon Deaths Registry capturing the time when a ticket was issued and the time when an applicant was called to a counter. After the close of business, a queue transaction report was generated which listed out the issue time, call time, waiting time of each ticket and the number of the serving counter. Based on the queue transaction report generated from the electronic ticketing system, 68 and 37 tickets were issued for single and multiple (by funeral agents) death registrations respectively. The average time required to process an application was 11 minutes and the average waiting time was 4 minutes (ranging from no waiting time to the longest waiting time of 18 minutes). As a comparison, based on the records generated from the electronic ticketing system, on the working days from 2 to 11 January 2021, the average waiting time was 24 minutes (ranging from no waiting time to the longest waiting time of 95 minutes) (see Table 7). According to ImmD, the long waiting time was mainly due to bunching effect caused by influx of applicants and reduced manpower arising from its special service arrangement due to COVID-19 epidemic.

Audit noted that an electronic ticketing system was not installed at the Hong Kong Island Deaths Registry. Similar to birth registrations, in order to improve the provision of management information on death registration, ImmD needs to keep records on the processing time for death registrations. ImmD also needs to consider the merits of installing an electronic ticketing system at the Hong Kong Island Deaths Registry.

Table 7

Waiting time for counter services at Kowloon Deaths Registry
(2 to 12 January 2021)

	Waiting time		
	12 January 2021 (Audit visit) (Note 1) (Minute)	2 to 11 January 2021 (8 working days) (Note 2) (Minute)	Variance (Minute)
Single registration			
Average	4	24	20
Longest	18	95	77
Shortest	0	0	0
Multiple registrations			
Average	7	26	19
Longest	17	65	48
Shortest	0	0	0
Overall			
Average	4	24	20
Longest	18	95	77
Shortest	0	0	0

Source: Audit analysis of ImmD records

Note 1: On 12 January 2021, 5 counters were in operation for processing death registration and related services.

Note 2: From 2 to 11 January 2021, on average 3.4 (ranging from 3 to 4) counters were in operation for processing death registration and related services. Details of waiting time in the 8 working days (including two half working days on Saturday) are shown in Appendix E.

Need to address the issue of non-compliance with BDO time requirement of registering deaths

2.18 According to BDO, deaths from natural causes shall be registered by the deceased's relatives or other relevant persons of the deceased within 24 hours (Note 26). A person who fails to perform the duty shall be liable on summary conviction to a fine at level 1 or to imprisonment for 6 months. Audit analysis of the data of death registrations at the three deaths registries (the Hong Kong Island Deaths Registry, the Kowloon Deaths Registry and GRO) for the period from January 2015 to October 2020 revealed that, out of 213,770 registrations of natural deaths, 103,816 (49%) registrations were made at least 3 days after the dates of death (with the longest being 665 days).

2.19 In response to Audit's enquiry, in March 2021, ImmD said that:

- (a) the existing BDO was enacted in 1934. It is worth noting that one of the legal intents of setting such a short time frame for registering deaths (i.e. within 24 hours — see Note 26) might have been to ensure that the deceased remain would be handled properly with a view to controlling the widespread of plague in 1930's. The time limit for death registration appeared to be on a very stringent side in today's context;
- (b) according to operational experiences, some common reasons for registration of deaths from natural causes beyond 24 hours were:
 - (i) relatives of the deceased might not be able to secure the Medical Certificate of the Cause of Death on the same day; and
 - (ii) relatives of the deceased had to follow up funeral arrangements and engage funeral company for completing death registration and related actions (e.g. cremation booking) in one go;
- (c) according to section 14 of BDO, the duty of registering a death lies on the nearest relatives of the deceased present at the death or in attendance during

Note 26: *The 24 hours are exclusive of the time necessary for the journey and of any intervening hours of darkness and of general holidays as defined by the General Holidays Ordinance (Cap. 149).*

his last illness, and, in default of such relatives, of each person present at the death or in attendance during the last illness, and of any occupier of the house in which, to his knowledge, the death took place, and, in default of any such persons, of each inmate of such house, and of the person causing the body of the deceased to be buried. It might be uncertain who should bear the duty of registering a death and on whom prosecution should be instigated;

- (d) ImmD was committed to executing all statutory requirements. According to section 25 of BDO, relatives/relevant persons who fail to register the death within 24 hours without reasonable excuse commit an offence. Having balanced the provision of efficient death registration service for the deceased and the implication of beyond 24-hour death registrations from the public health angle, a humanistic and realistic approach had been adopted to administer the registration of deaths. Statistics showed that a vast majority of deaths (around 93%) were registered within 7 days. Having considered that such time would have included the journey (i.e. travelling time), intervening hours of darkness and general holidays, time for securing the Medical Certificate of the Cause of Death and engaging funeral companies for arrangements, it was not unreasonable that the deaths had taken beyond 24 hours to be registered; and
- (e) the quoted case where the death was registered 665 days after the date of death was an isolated case. ImmD was only informed of the case by the concerned hospital as an unclaimed body some 600 days after the date of death and the concerned hospital eventually took up the duty to register the death of the deceased. Having considered the exceptional circumstances of the case, the death was eventually registered.

According to ImmD, in light of the above, a humanistic approach had been adopted by ImmD to administer the registration of deaths in view of compassionate grounds.

2.20 While noting the explanations given by ImmD in paragraph 2.19, Audit considers it not satisfactory that the statutory provision in BDO on registration of natural deaths within 24 hours has not been complied with. Audit considers that ImmD needs to critically explore measures that can be taken to address the issue of non-compliance with this BDO requirement.

Audit recommendations

- 2.21 **Audit has *recommended* that the Director of Immigration should:**
- (a) **keep records on the processing time for death registrations;**
 - (b) **consider the merits of installing an electronic ticketing system at the Hong Kong Island Deaths Registry; and**
 - (c) **critically explore measures that can be taken to address the issue of non-compliance with BDO requirement of registering deaths from natural causes within 24 hours.**

Response from the Government

2.22 The Director of Immigration generally agrees with the audit recommendations. He has said that ImmD will:

- (a) explore the feasibility of introducing a new system function to keep track of the processing time for death registrations in APPLIES-2, which is expected to roll out by phases from the fourth quarter of 2021;
- (b) explore the feasibility of installing an electronic ticketing system at the Hong Kong Island Deaths Registry; and
- (c) explore measures to encourage members of the public to conduct death registrations as soon as practicable. ImmD will draw the attention of members of the public of the legal time limit for registering deaths, such as adding a notice on ImmD's website, guidance note, pamphlet, etc. Besides, ImmD will consider to take action on doubtful cases with undue delay.

Performance reporting

Scope for improvement in performance reporting in birth and death registrations

2.23 Audit examination has identified scope for improvement in performance reporting in birth and death registrations, as follows:

- (a) ***Issue of a certified copy of a birth/death certificate involving search of records not included as key performance measures.*** A person can apply for a certified copy of an entry in the births/deaths register if he has the original or a photocopy of the certificate of registration, or the result of a previous search. Otherwise, he will need to apply for a search of the birth/death records first (see para. 1.11). ImmD has set two performance pledges relating to issue of a certified copy of a birth/death certificate with or without search of records (see Table 8). Audit examination revealed that:
 - (i) ImmD had only included the issue of a certified copy of a birth/death certificate if search of records is not involved (i.e. item (a) in Table 8) in its CORs as one of the key performance measures. However, the issue of a certified copy of a birth/death certificate involving search of records had not been included as key performance measure (i.e. item (b) in Table 8); and
 - (ii) ImmD did not keep records on the number of certified copies of birth/death certificates issued that involved search of records (i.e. item (b) in Table 8). In this connection, Audit noted that the number of searches of birth/death records had been on an increasing trend in recent years, showing that there might be a notable increase in demand on the issue of certified copies of birth/death certificates involving search of records. For example, the number of birth record searches significantly increased by 161 % from 5,282 in 2010 to 13,810 in 2019, while the number of death record searches increased by 49 % from 6,859 in 2010 to 10,211 in 2019; and

Table 8**Performance pledges relating to
issue of a certified copy of a birth/death certificate**

Type	Due day for issue (Working days)
(a) Issue of a certified copy of a birth/death certificate (if search of records is not involved)	7
(b) Issue of a certified copy of a birth/death certificate (if search of records is involved)	10

Source: ImmD records

- (b) ***Need to take measures to monitor the waiting time for death registrations.***
ImmD pledges to process a death registration within 30 minutes at counter. However, waiting time of an applicant (Note 27) for counter services is not included. In this regard, Audit noted that ImmD's performance pledges on standard processing times for clearing visitors at immigration control points included both the waiting time (queueing time) and the time required for processing travelling document at the counter. In response to Audit's enquiry in March 2021, ImmD said that:
- (i) in view of the special case nature for death registration, service was provided on a first-come-first-served basis all year round where no quota was set to cater for the urgent need of the public (e.g. funeral arrangements). Since the daily usage was unpredictable, it was difficult to set a key performance measurement to include the waiting time for registration; and
 - (ii) it was a common practice for undertakers to make multiple death registrations on behalf of the relatives of the deceased, and it might not be meaningful to measure the waiting time for such registration.

Note 27: *The waiting time referred to the time after an applicant received a ticket showing his priority in the queue until reception of service at counter.*

While noting that it might not be practicable to include the waiting time in the performance pledge, Audit considers that ImmD needs to take measures to monitor the waiting time for death registrations.

Audit recommendations

2.24 **Audit has *recommended* that the Director of Immigration should:**

- (a) **consider including the issue of a certified copy of a birth/death certificate involving search of records as one of the key performance measures in the CORs; and**
- (b) **take measures to monitor the waiting time for death registrations.**

Response from the Government

2.25 The Director of Immigration agrees with the audit recommendations. He has said that ImmD will consider:

- (a) including the issue of a certified copy of a birth/death certificate involving search of records in the CORs; and
- (b) the feasibility of providing “programme tag” with the estimated service time to members of the public so as to enhance ImmD’s standard of service.

PART 3: REGISTRATION OF MARRIAGES

3.1 This PART examines the work of ImmD in marriage registration, focusing on:

- (a) management of marriage registries (paras. 3.2 to 3.7);
- (b) Civil Celebrants of Marriages Scheme (paras. 3.8 to 3.15); and
- (c) bogus marriages (paras. 3.16 to 3.33).

Management of marriage registries

3.2 *Changes in demand for ImmD's marriage related services.* In 2019, the total number of marriage registrations decreased by 15% from 52,626 in 2010 to 44,522 in 2019. In particular, the number of marriage solemnisations carried out in ImmD's marriage registries decreased by 22% from 25,919 in 2010 to 20,313 in 2019. Changes in demand for other marriage related services are as follows:

- (a) processing of notices of intended marriage (marriage notice) decreased by 16% from 54,661 in 2010 to 45,807 in 2019;
- (b) search of marriage records increased by 62% from 13,045 in 2010 to 21,109 in 2019;
- (c) issuance of certified copy of marriage certificates increased by 59% from 14,383 in 2010 to 22,885 in 2019;
- (d) search of absence of marriage records increased by 28% from 25,040 in 2010 to 32,106 in 2019; and
- (e) issuance of CAMRs (see para. 1.11) increased by 43% from 13,850 in 2010 to 19,818 in 2019.

*Need to consider increasing
the marriage ceremony quotas on Saturdays*

3.3 *Utilisation rates of ImmD's marriage registries.* ImmD has set internal marriage ceremony quotas for each marriage registry. Quotas on weekdays, Saturdays and Sundays are set for a marriage registry with reference to factors such as available manpower resources, office space (e.g. number of marriage halls — Note 28), and popularity of the marriage registry. Audit reviewed the utilisation of marriage registries from January 2015 to October 2020 (see Table 9) and found that:

- (a) the utilisation rates of the five marriage registries on weekdays (17% to 75%) were lower than those on Saturdays (55% to 98%); and
- (b) only one of the five marriage registries (i.e. City Hall Marriage Registry) was open in both the morning and the afternoon on Saturdays (see Table 10).

In March 2021, ImmD said that if the service hours of its marriage registries on the weekdays were to be reduced, provision of other services (e.g. giving of notice of intended marriage, search of marriage records and application for CAMR) would inevitably be affected adversely during the weekdays. However, in Audit's view, in order to provide better service to the public, ImmD should consider exploring the feasibility of increasing the marriage ceremony quotas for Cotton Tree Drive Marriage Registry, Tsim Sha Tsui Marriage Registry, Sha Tin Marriage Registry and Tuen Mun Marriage Registry on Saturdays during festive seasons and on auspicious dates. In addition, ImmD should also consider opening both marriage halls of Tsim Sha Tsui Marriage Registry and Sha Tin Marriage Registry on these occasions.

Note 28: *Each of the Tsim Sha Tsui Marriage Registry and Sha Tin Marriage Registry had two marriage halls whereas the other three marriage registries had only one marriage hall each.*

Registration of marriages

Table 9

Utilisation of marriage registries (January 2015 to October 2020)

Registry	Number of staff	Marriage ceremony quota		Utilisation rate (Note 1)					
				2015	2016	2017	2018	2019	2020 (up to October) (Note 2)
		(Number)		(%)					
City Hall Marriage Registry	5	Weekdays	23	41	41	45	41	36	17
		Saturdays	23	75	70	74	72	71	55
		Sundays	23	34	30	37	39	24	20
Cotton Tree Drive Marriage Registry	3	Weekdays	23	41	44	40	42	46	26
		Saturdays	10	90	88	83	91	89	74
		Sundays	23	48	42	47	50	44	34
Tsim Sha Tsui Marriage Registry	16	Weekdays	42	51	48	50	49	46	25
		Saturdays	10	89	91	91	93	98	75
		Sundays	46	44	37	40	43	31	28
Sha Tin Marriage Registry	13	Weekdays	30	75	71	70	66	62	26
		Saturdays	10	92	94	93	92	88	73
		Sundays	46	40	40	44	40	29	17
Tuen Mun Marriage Registry (Note 3)	10 (Note 4)	Weekdays	14	62	63	62	60	50	27
		Saturdays	5	92	94	94	90	89	74

Source: ImmD records

Note 1:
$$\text{Utilisation rate} = \frac{\text{Quota used}}{\text{Marriage ceremony quota}} \times 100\%$$

Table 9 (Cont'd)

Note 2: According to ImmD, the utilisation of all marriage registries was adversely affected by the COVID-19 epidemic.

Note 3: No marriage solemnisation service was provided on Sundays.

Note 4: Staff of the Marriage Registry also needed to provide birth registration and related services.

Remarks: In order to reflect a normal working situation, the following days were excluded by ImmD in calculating the utilisation rates: (a) the working days with Tropical Cyclone Warning Signal Number 8 or above hoisted; and (b) the periods under the Government's special work-from-home arrangements from 29 January to 2 February 2020.

Table 10

**Time slots for booking and marriage ceremony quotas of
the five marriage registries on Saturdays
(January 2015 to October 2020)**

Registry	Time slot for booking	Marriage ceremony quota	Marriage hall
		(Number)	
City Hall Marriage Registry	9:30 a.m. to 12:30 p.m. 2:15 p.m. to 4:30 p.m.	23	1
Cotton Tree Drive Marriage Registry	9:15 a.m. to 11:30 a.m.	10	1
Tsim Sha Tsui Marriage Registry	9:15 a.m. to 11:30 a.m.	10	2 (Note)
Sha Tin Marriage Registry	9:15 a.m. to 11:30 a.m.	10	2 (Note)
Tuen Mun Marriage Registry	9:45 a.m. to 11:00 a.m.	5	1

Source: ImmD records

Note: Tsim Sha Tsui Marriage Registry and Sha Tin Marriage Registry opened only one of their two marriage halls on Saturdays.

Remarks: According to ImmD, marriage registries provided an array of marriage-related services (e.g. search of marriage records) in addition to marriage ceremony services.

Scope for improvement in performance reporting

3.4 There have been a large number of cross-boundary marriages between residents of Hong Kong and the Mainland in recent years (Note 29). These marriages may take place in two ways:

- (a) Hong Kong residents may apply for a CAMR (see para. 1.11) from ImmD and get married in the Mainland; or
- (b) Mainland residents may come to Hong Kong as visitors and register their marriages with Hong Kong residents.

According to ImmD, Hong Kong residents who intend to carry out cross-boundary marriages in the Mainland are required to apply for a CAMR to prove that they have no marriage record in Hong Kong. To apply for a CAMR, the applicant has to complete an application form and pay the prescribed fee. If the search result shows that the applicant has no marriage record in Hong Kong, a CAMR will be issued on payment of the prescribed fee. Otherwise, a letter of marriage record indicating the date(s) of his/her previous marriage(s) will be issued. According to ImmD, it normally takes 7 working days to process the application for a CAMR after all necessary documents and fees have been received. The number of CAMRs issued is reported under the key performance indicator of “Birth/death/marriage/adoption certificates issued” in ImmD’s COR (see (c) of Table 2 in para. 1.12).

3.5 ImmD has set up performance pledges for: (a) search of marriage records and/or issue of a certified copy of marriage certificate (a standard processing time of within 10 minutes at counter); and (b) due date for the issuance of relevant record (7 working days). However, ImmD has not set a performance pledge for search of absence of marriage record. Audit noted that, from 2015 to 2019, the total numbers of marriage record searches and absence of marriage record searches were 85,360 and 163,925 respectively. In view of the fact that the number of searches of absence of marriage records was significant, ImmD should consider setting up a performance pledge for the search of absence of marriage record.

Note 29: *According to C&SD, out of the some 50,000 registered marriages in Hong Kong in 2016, marriages between Hong Kong residents accounted for 54.6% approximately, while Mainland-Hong Kong cross-boundary marriages accounted for 34.7%.*

Audit recommendations

3.6 Audit has *recommended* that the Director of Immigration should consider:

- (a) exploring the feasibility of increasing the marriage ceremony quotas for Cotton Tree Drive Marriage Registry, Tsim Sha Tsui Marriage Registry, Sha Tin Marriage Registry and Tuen Mun Marriage Registry on Saturdays during festive seasons and on auspicious dates; and
- (b) setting up a performance pledge for the search of absence of marriage record.

Response from the Government

3.7 The Director of Immigration generally agrees with the audit recommendations. He has said that ImmD will:

- (a) explore the feasibility of increasing marriage ceremony quotas on a demand-driven basis, e.g. on festive dates and/or auspicious dates (whether on weekdays or Saturdays); and
- (b) consider setting up a performance pledge for the search of absence of marriage record.

Civil Celebrants of Marriages Scheme

3.8 In 2006, CCM Scheme (see para. 1.9) was introduced to provide more choices for the marrying parties in terms of location (e.g. hotels, shopping centres and private clubs), timing and “theme” of celebration (e.g. conducted in theme parks) and business opportunities to the private sector including marriage consulting companies, hotel groups and shopping malls. After the introduction of the Scheme in 2006, the use of CCM services for celebrating marriages increased (from 3% in May 2006 to more than 50% in recent years). Table 11 shows an analysis of marriage solemnisations in the period from 2015 to 2019.

Table 11

**Analysis of marriage solemnisations
(2015 to 2019)**

Year	Total number of marriage solemnisations	Number of marriage solemnisations conducted by CCMs
2015	51,447	26,219 (51%)
2016	49,505	25,292 (51%)
2017	50,903	26,307 (52%)
2018	49,697	25,713 (52%)
2019	44,520	22,505 (51%)

Source: Audit analysis of ImmD records

Need to ensure that persons included in ImmD's list of CCMs meet the eligibility criteria mentioned in MO

3.9 ImmD publishes a list of appointed CCMs on its website for public information. As at 20 November 2020, there were 2,277 appointed CCMs on the list. The eligibility criteria for a CCM as laid down in MO include, among others, that the person must be a solicitor or a notary public who:

- (a) in case of a solicitor, holds a current practising certificate issued by The Law Society of Hong Kong under the Legal Practitioners Ordinance (Cap. 159) (i.e. a member with practising certificate of The Law Society of Hong Kong) and has practised as a solicitor, or has been employed to provide legal service to the employer, for a period or periods in aggregate of not less than 7 years; or
- (b) in case of a notary public, holds a current practising certificate issued by the Hong Kong Society of Notaries which is unconditional or is qualified to practise as a notary public under the Legal Practitioners Ordinance.

Appendix F shows the details of the eligibility criteria for a CCM as laid down in MO.

3.10 According to MO, appointed CCMs shall notify the Registrar in writing of cessation to meet any criterion prescribed in MO within 14 days of such cessation. According to the prevailing practice of ImmD, the up-to-date list of CCM would be passed to The Law Society of Hong Kong and the Hong Kong Society of Notaries normally 4 to 5 times per year. According to ImmD, the two Societies would notify ImmD when there is a change in the practising status of their members rendering them unable to meet the eligibility criteria for CCM.

3.11 Audit compared ImmD's list of appointed CCMs with the lists of members with practising certificates of The Law Society of Hong Kong and the Hong Kong Society of Notaries (as shown on their websites) and found that 34 persons on ImmD's list were neither solicitors with practising certificates nor notaries public. In Audit's view, ImmD needs to take measures to ensure that persons included in ImmD's list of CCMs meet the eligibility criteria mentioned in MO.

Need to specify the training requirements of CCMs in the Code of Practice or information pamphlet of ImmD

3.12 According to MO, a CCM should have completed such training organised for the purposes of the Ordinance as the Registrar may specify. The Code of Practice promulgated by ImmD aims to provide practical guidance in respect of the professional conduct of CCMs. Audit notes that:

- (a) the nature, type and training hours to be provided to a potential CCM is not specified in the Code of Practice or ImmD's information pamphlet "How to apply — Civil Celebrants of Marriages"; and
- (b) an initial 3-hour training (Note 30) will be provided to a potential CCM. The training covers the procedures and documentation involved when getting married in Hong Kong, the Code of Practice for CCMs, and the identification of forged documents of identity. The appointed CCMs are not required to attend any training session upon renewal of appointment.

Note 30: *The duration of training was condensed to 1.5 hours with smaller class size in 2020 as a special arrangement under the COVID-19 epidemic.*

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As training is an integral part of the CCM Scheme for the purpose of avoiding possible errors that may render a marriage void or voidable under law, ImmD should specify the training requirements of CCMs in the Code of Practice or ImmD's information pamphlet "How to apply — Civil Celebrants of Marriages".

Need to consider requiring dormant CCMs to attend refresher training course

3.13 To ascertain whether appointed CCMs are actively involved in providing the related services, Audit analysed the number of marriage solemnisation services provided by CCMs who were on the list of ImmD during the period from January 2015 to November 2020. As shown in Table 12, 291 (17%) of 1,756 CCMs were not active and had not provided any marriage solemnisation service for some five years from January 2016 to October 2020. ImmD needs to consider requiring dormant CCMs (say those who have not provided any marriage solemnisation service in the past five years) to attend refresher training course upon receiving their CCM renewal applications.

Table 12

**Analysis of marriage solemnisation services provided by CCMs
(January 2016 to October 2020)**

Number of marriage solemnisations conducted	Number of CCMs involved	Percentage
0	291	17%
1 to 10	967	55%
11 to 50	310	17%
51 to 100	55	3%
> 100	133	8%
Total	1,756	100%

Source: Audit analysis of ImmD records

Audit recommendations

- 3.14 **Audit has *recommended* that the Director of Immigration should:**
- (a) **take measures to ensure that persons included in ImmD’s list of CCMs meet the eligibility criteria mentioned in MO;**
 - (b) **specify the training requirements of CCMs in the Code of Practice or ImmD’s information pamphlet “How to apply — Civil Celebrants of Marriages”; and**
 - (c) **consider requiring dormant CCMs to attend refresher training course upon receiving their CCM renewal applications.**

Response from the Government

3.15 The Director of Immigration generally agrees with the audit recommendations. He has said that:

- (a) in practice, ImmD relies significantly on the reporting made by CCMs and information from The Law Society of Hong Kong and the Hong Kong Society of Notaries (see para. 3.10) to ascertain whether there is any change in the practising status of CCMs rendering them unable to meet the eligibility criteria for CCM. In light of Audit’s recommendation, ImmD would explore possible measures with the two Societies to enhance the existing mechanism (see para. 3.10);
- (b) ImmD will explore the feasibility of checking the published list of CCMs with the lists of solicitors and notaries public with valid practising certificates on the websites of The Law Society of Hong Kong and the Hong Kong Society of Notaries respectively on a regular basis;
- (c) CCMs will be reminded to observe the requirement to notify the Registrar in writing within 14 days if they cease to meet any criterion prescribed in Schedule 4 of MO upon granting appointment or renewal of appointment. The relevant information will be included on ImmD’s website, information pamphlet, guidance notes, and training material, etc;

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- (d) ImmD will include the training requirements of CCMs in the information pamphlet; and
- (e) ImmD will encourage dormant CCMs to attend refresher training course and will provide a set of “Guidance Notes for Civil Celebrants of Marriages” to dormant CCMs upon receiving their renewal applications. ImmD will also consider inviting dormant CCMs by phases to attend refresher training course on a voluntary basis.

Bogus marriages

3.16 According to ImmD, the issue of Mainland residents or foreigners obtaining residence in Hong Kong by entering into bogus marriages with Hong Kong residents emerged more than a decade ago (Note 31) and has been a public concern (see para. 1.10) in recent years. A considerable number of Mainland residents have, through syndicated arrangement, entered into mala fide marriages with local residents for the purposes of procuring One-way Permits (OWPs — Note 32) for permanent settlement in Hong Kong and/or “Tanqin” (visiting relatives) exit endorsements on the Exit-entry Permits for Travelling to and from Hong Kong and Macao (Note 33) to prolong their stay in Hong Kong for illicit activities, such as illegal employments or vice activities. According to ImmD, for people who have obtained their residence in Hong Kong by means of bogus marriages, their Hong Kong Identity Cards and residence status will be invalidated according to the laws of Hong Kong. They will also be subject to removal back to their place of origin.

Note 31: *From 2008 to 2017, there was a total of some 188,000 cross-boundary marriages registered in Hong Kong, representing 35% of overall marriage registrations.*

Note 32: *The OWP Scheme allows Mainland residents to come to Hong Kong for family reunion in an orderly manner through approval by the Mainland authorities in accordance with the laws and regulations of the Mainland. The daily quota for OWPs has all along been set at 150.*

Note 33: *To further facilitate Mainland residents to visit relatives in Hong Kong, with effect from 25 December 2009, the Exit and Entry Administration Office of the Public Security Bureau in the Mainland started issuing the multiple journey “Tanqin” exit endorsement which is valid for one year. Holders of an Exit-entry Permit for Travelling to and from Hong Kong and Macao bearing the multiple journey “Tanqin” exit endorsement may make multiple visits to Hong Kong within the validity of the endorsement and be permitted to stay for not more than 90 days upon each entry.*

3.17 In handling suspected bogus marriage cases, officers of ImmD will verify the genuineness of a marriage between the parties involved by in-depth investigations (e.g. home visits). Prior to 17 June 2019, investigation of suspected bogus marriages was handled mainly by the Special Task Force Sub-sections (STF) and the Outside Investigation Section (OIS) of the Investigation Sub-division of ImmD (see Appendix C). Their responsibilities were as follows:

- (a) **STF.** It was under the Special Investigation Section and handled suspected bogus marriage cases referred from law enforcement agencies, the Mainland authorities and BDM Sections; and
- (b) **OIS.** It handled suspected bogus marriage cases referred from the control points, the Certificate of Entitlement Section of ImmD, other government departments and complaints/reports received from the public.

After completion of an internal review in early 2019, ImmD centralised handling of all suspected bogus marriage cases under STF (Note 34). To strengthen the manpower of STF, 10 new posts were created under STF (Note 35) and 21 posts responsible for handling suspected bogus marriage cases in OIS were redeployed to STF. Hence, the establishment of STF was increased to 53 posts in June 2019. From January 2016 to October 2020, ImmD investigated into 2,547 suspected bogus marriage cases (Note 36). 4,623 persons were arrested and 356 persons were successfully prosecuted (see Appendix B).

Note 34: *Given the rapid change in the modus operandi of bogus marriage syndicates, ImmD considered that centralising the handling of all bogus marriage cases in one section was more desirable as a unified approach could be adopted in the investigation process, and exchange of intelligence could be much more efficient, so that a higher level of efficiency and effectiveness of case investigation could be achieved.*

Note 35: *According to ImmD, after the creation of the posts, it was expected that the total output of completed cases would increase by 25% from 1,056 cases to 1,320 cases per annum, which might help curb the growth of backlog of suspected bogus marriage cases. The 10 posts comprised 1 Senior Immigration Officer, 2 Immigration Officers, 2 Chief Immigration Assistants, 2 Senior Immigration Assistants, and 3 Immigration Assistants.*

Note 36: *One or more case files may be created for a suspected bogus marriage case.*

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3.18 Audit examination revealed that there was scope for improvement on the investigation of suspected bogus marriages carried out by STF (Note 37) as elaborated in paragraphs 3.19 to 3.31.

Need to expedite clearance of outstanding cases

3.19 **2011 audit review.** According to the results of audit review on the operation of Enforcement Division of ImmD in 2011 (see para. 1.14), which covered the investigation of suspected bogus marriages, the number of outstanding cases increased from 72 in December 2006 to 3,454 as at 30 June 2010. Audit recommended that ImmD should assess the long-term manpower requirements and take additional measures, including deploying more staff resources as appropriate, to clear the backlog of outstanding suspected bogus marriage cases. As shown in Table 13, although the backlog decreased by 33 % from 3,630 cases in 2011 to 2,416 cases in 2015, it rebounded to 2,634 cases in 2016 and further to 3,240 cases in 2019. In June 2019, ImmD created 10 new posts under STF to clear the backlog (see para. 3.17).

Note 37: *In 2019, out of 644 new suspected bogus marriage cases detected, 541 (84%) cases were handled by STF, 98 (15%) cases were handled by OIS and 5 (1%) cases were handled by other sections under the Enforcement Division of ImmD when they encountered suspected bogus marriage cases in their normal work.*

Table 13

**Backlog of outstanding suspected bogus marriage cases
handled by Enforcement Division
(2011 to 2020)**

Year	Backlog at beginning of period (a)	New cases (b)	Case completed (Note 1) (c)	Case curtailed for the time being (Note 2) (d)	Backlog carried forward (Note 3) (e) = (a) + (b) – (c) – (d)
2011	4,781	1,238	1,237	1,152	3,630
2012	3,630	848	1,047	316	3,115
2013	3,115	1,083	1,296	246	2,656
2014	2,656	1,349	1,075	297	2,633
2015	2,633	1,129	1,124	222	2,416
2016	2,416	1,248	902	128	2,634
2017	2,634	1,496	1,025	136	2,969
2018	2,969	1,210	1,015	134	3,030
2019	3,030	1,417	1,039	168	3,240
2020	3,240	498	780	349	2,609

Source: ImmD records

Note 1: A case is classified as completed if: (a) a Section Head considers that no further investigation work is required (i.e. cases with no further action taken); (b) there is insufficient evidence to support the prosecution; or (c) the suspect has been prosecuted and convicted or acquitted.

Note 2: A curtailed case (see para. 3.22(b)) will be reactivated for investigation upon interception of the suspect and will be treated as a new case.

Note 3: The figures included cases taken over by the Prosecution Section of ImmD for necessary action.

Remarks: According to ImmD, there was a sudden influx of some 800 Mainland referrals in 2017-18.

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Audit further analysed the ageing of outstanding suspected bogus marriage cases handled by STF. As of December 2020, out of 2,609 outstanding suspected bogus marriage cases, the number of cases handled by STF was 2,237. Of the 2,237 outstanding cases, Audit found that:

- (a) 1,110 (49.6%) cases had been outstanding for 2 years or less;
- (b) 838 (37.5%) cases had been outstanding for more than 2 to 4 years;
- (c) 122 (5.4%) cases had been outstanding for more than 4 to 6 years; and
- (d) 167 (7.5%) cases had been outstanding for more than 6 to 11 years.

3.20 According to ImmD, out of the 2,237 outstanding cases:

- (a) for 1,501 (67%) cases, the suspects were pending interception after all possible means to locate them had been exhausted (suspects of 989 cases were outside Hong Kong);
- (b) for 84 (4%) cases, they were pending the assessment of the Prosecution Section; and
- (c) for 652 (29%) cases, the relevant case files were opened in 2019 or 2020.

3.21 Audit noted that the backlog of outstanding suspected bogus marriage cases of the Enforcement Division increased from 2,416 in 2015 to 3,240 in 2019, following the reduction of outstanding cases with the curtailing approach (see para. 3.22(b)) from 2012 to 2015. In 2020, the number of outstanding cases decreased from 3,240 to 2,609 largely owing to the reduction in number of new cases from 1,417 in 2019 to 498 in 2020. While noting the efforts of ImmD in clearing the backlog of outstanding suspected bogus marriage cases, Audit considers that ImmD needs to expedite actions to clear the backlog, focusing on cases which have remained outstanding for a long time.

***Need to step up supervisory checks of
no-further-action cases and curtailed cases***

3.22 As shown in Table 13 in paragraph 3.19, from 2011 to 2020, there were 10,540 completed cases and 3,148 cases endorsed for taking no further action and curtailed for the time being respectively. According to ImmD:

- (a) a case is classified as completed if the Chief Immigration Officer (Section Head) considers that no further investigation work is required (see Note 1(a) to Table 13 — hereinafter referred to as no-further-action cases); and
- (b) following up on the recommendation of the 2011 audit review (see para. 3.19), in order to reduce the number of outstanding cases to a more manageable size for effective monitoring, ImmD has decided not to take further action for the time being on some long-outstanding cases (i.e. curtailed cases (see column (d) of Table 13)) based on certain curtailment criteria (e.g. all necessary actions in locating the suspect have been exhausted).

The decision to endorse a no-further-action case and a curtailed case rests with the Section Heads of STF and OIS. A case officer should pass the investigation file of the endorsed case to the Investigation Central Administration Section (ICAS).

3.23 According to the Investigation Sub-divisional Instruction and operation procedure manual (operation manual) of the Special Investigation Section, ImmD has put in place a spot check mechanism requiring the Assistant Principal Immigration Officer (Head) of the Investigation Sub-division to spot check two samples per week from no-further-action cases and curtailed cases from the preceding week randomly selected by ICAS (after updating the APPLIES records). However, Audit found that in 2019:

- (a) only 18 cases were selected for spot checking by the Assistant Principal Immigration Officer; and
- (b) in 6 (of the 18) cases analysed by Audit, STF sent the case files to ICAS (for updating the APPLIES records) 3 to 100 months (averaging

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60.5 months) after the cases were endorsed for taking no further action/curtailment.

3.24 In March 2021, ImmD informed Audit that:

- (a) due to system constraint, both no-further-action cases and curtailed cases shared the result code (“NF”) for updating the APPLIES records. As such, ICAS could not distinguish between the two categories of cases when selecting samples for supervisory check. The spot check mechanism as mentioned in paragraph 3.23 should focus on no-further-action cases (as there would be no further actions taken after the endorsement from Section Head) for check and balance. To ensure that cases were endorsed properly, ImmD would consider conducting system enhancement so as to distinguish the no-further-action cases from the curtailed cases so that ICAS could select samples of no-further-action cases for supervisory check in future;
- (b) for curtailed cases:
 - (i) the focus of spot checking (see para. 3.23) would be whether or not all the curtailment criteria for the time being have been met (see para. 3.22(b)); and
 - (ii) they would be reactivated by opening new case files once the suspects were intercepted (see Note 2 to Table 13 in para. 3.19). Due to operational needs, case officers had to keep the curtailed case files (albeit already endorsed by the Section Head as curtailed cases) pending interception of the suspects. After all necessary follow-up actions for the new case files had been completed, all relevant files (including the curtailed case files) would be sent to ICAS for updating of APPLIES records. Therefore, a much longer time was required for case files of curtailed cases to reach ICAS for record updating;
- (c) regarding Audit’s observation in paragraph 3.23(b), if the date of last follow-up action taken (e.g. date of informing the Mainland authority about the investigation result of the referral case) by a case officer (instead of the date of endorsement for no-further-action cases and curtailed cases by the Section Head) was taken as the commencement time, the time taken to send

the 6 case files examined by Audit would be reduced to 2 to 12 months (averaging 5 months); and

- (d) the number of no-further-action cases and curtailed cases endorsed in 2019 was 19 and 155 respectively. During the year, the number of spot checking for the two categories of cases were 8 (42% of 19 cases) and 10 (6% of 155 cases) respectively.

Audit noted that the percentage of cases selected for checking for curtailed cases (6%) was significantly lower than that for no-further-action cases (42%) because the case files for the former were kept by the case officers and not passed to ICAS for updating the APPLIES records until actions were completed (as such, these cases could not be selected by ICAS). In Audit's view, ImmD needs to step up checking by the supervising officer (i.e. the Assistant Principal Immigration Officer) of suspected bogus marriage cases. In order to enhance the selection of curtailed cases for spot checking, Audit considers that, after obtaining endorsement of Section Head to curtail the investigation for the time being, the case officers should send the case files to ICAS for updating the APPLIES records and retrieve them for further action after record updating.

Need to improve the management of outstanding cases

3.25 **Case management.** Investigation of bogus marriage cases involves various intricate procedures (see para. 3.17). According to STF's procedures of handling suspected bogus marriage cases, after receiving a referral of a suspected bogus marriage case, the Section Head (i.e. Chief Immigration Officer) via the Sub-section head (i.e. Senior Immigration Officer) will assign the referral to a case officer (i.e. Immigration Officer) and a case file has to be opened (Note 38) before the formal investigation process begins. According to ImmD, all cases shall be processed as soon as possible.

3.26 **Priority cases.** An Investigation Sub-divisional Instruction was issued on 22 August 2018 which stated that priority should be accorded to suspected bogus marriage cases in which, among other things, syndicate may be involved. For priority

Note 38: *According to ImmD, the case file is opened (on the same date) by ICAS upon request of the case officer. ICAS also performs preliminary record check in APPLIES for the case officer.*

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cases, the case file has to be opened within two weeks after assignment of the case and the case officer shall initiate investigation immediately. The Sub-section Head is required to closely monitor investigation progress of the case and report the progress to the Section Head every four weeks. Justifications for deferment of action shall be properly recorded in case of failure in meeting the time limit. According to the operation manual, if investigation cannot be completed upon a lapse of 4 months after the assignment of a case, the case officer shall record the investigation progress on the case file summarising the actions taken and the reasons for not being able to finalise the case. The Section Head should conduct periodic spot checks on the case files, such as the file opening date against the date of referral and whether urgent cases have been accorded priority. The results of periodic spot checks should be recorded on register.

3.27 *Normal cases.* For normal cases (i.e. cases not classified as priority cases), there is no time limit set for opening a file. Similar to priority cases, the operation manual requires the case officer to record the investigation progress on the case file summarising the actions taken and the reasons for not being able to finalise the case if investigation cannot be completed upon a lapse of 4 months after the assignment of a normal case. The Sub-section Head shall conduct reviews on those outstanding cases and provide any directives to the case officer to ensure that the cases are appropriately followed up. The Section Head should conduct periodic checking on those cases and record the findings on register.

3.28 *Areas for improvement.* Audit selected 10 cases for examination. According to ImmD, only two of the 10 cases were accorded priority by STF in 2019. The case files were opened within two weeks after the assignment of the cases for the case officers to initiate investigation. In early February 2021, ImmD informed Audit that these two cases had been passed to Prosecution Section for necessary actions (Note 39). For the remaining eight normal cases, the investigation had been completed in 2019 or 2020. Audit examination revealed that:

Note 39: *Audit did not examine the case files as both cases had been passed for consideration of taking prosecution actions.*

- (a) it took 6 to 14 days (averaging 10 days) for a case to reach a case officer after the case was received by ImmD (Note 40);
- (b) it took 1 to 33 days (averaging 19 days) to open a case file after case assignment to a case officer; and
- (c) investigation of the eight cases could not be completed upon a lapse of 4 months after assignment of the cases to the case officers. According to the case officers, the main reasons for not being able to finalise these cases were heavy workload and the need to investigate more urgent cases.

Audit considers that ImmD should consider setting a time target for opening of case files for normal cases of suspected bogus marriages, similar to that for priority cases.

Need to strengthen supervisory checks of field operation

3.29 **Supervisory check.** According to the operation manual, the three Senior Immigration Officers (i.e. the Sub-section Heads) as supervisors of STF are required to conduct supervisory checks on the work of the officers in their investigation teams as frequently as possible, in particular those prolonged field operations which may last for a long period of time so as to ensure that proper procedures are being followed. The objective of the supervisory checks is to ensure that investigation officers follow the proper procedures in conducting investigations. The results of periodic supervisory checks should be recorded on the registers.

3.30 Audit scrutiny of the registers of supervisory checks during the 26-week period from 1 July to 29 December 2019 found that only 19 supervisory checks were conducted on the 10 teams (i.e. an average of only 2 checks on each team over the 26-week period) under the command of the three Senior Immigration Officers. Furthermore, the registers had not recorded the time of supervisory checks of field operation by the Senior Immigration Officers. Audit considers that ImmD needs to

Note 40: *According to ImmD, referrals from the Mainland authorities would first reach the Border Liaison Officer of ImmD and be delivered to the Certificate of Entitlement Section for initial screening to identify cases subject to investigation. The referrals would then be delivered to the Head of Investigation Sub-division and subsequently to the Section Head for assignment to case officers.*

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ensure that supervisory checks of field operation are conducted as frequently as possible in accordance with ImmD's guidelines.

Need to step up efforts in locating suspects of bogus marriage cases

3.31 After conducting record check, STF will carry out operation to locate suspected bogus marriage couples for making enquires and collecting evidence, where appropriate. As revealed in Case 1, ImmD needs to step up efforts in locating the suspects.

Case 1

Suspected bogus marriage case referred by a Mainland authority

1. In November 2012, a case of suspected bogus marriage (cum suspected bigamy) involving a Hong Kong male resident (H) and two Mainland females (W1 and W2) was referred to ImmD for investigation by a Mainland authority. Three case files for H, W1 and W2 were opened for recording investigation action. Upon assessment of the application for OWP from W1 in August 2011 by the Mainland authority, it found that H had marriage with W2 in Hong Kong in January 2007 shortly after the marriage with W1 in the Mainland in November 2006. ImmD found that H also filed a marriage notice (with a false statement that he was a bachelor — Note) with ImmD via a CCM in April 2011 for his intended marriage with another Mainland female resident (W3). H later withdrew the marriage notice when ImmD discovered that he had married W2 in Hong Kong. The Mainland authority casted doubt on the bona fide of the matrimonial relationship between W1 and H as it found that H had married W2 in Hong Kong. H was also suspected of committing bigamy. In November 2012, the case was referred to STF for investigation.

2. ***Investigation on H.*** Audit noted that the actions taken by STF to locate H were not entirely effective. Five home visits were conducted by STF in 2013 for locating H but in vain. Although STF had successfully contacted H by phone three times in 2013 and requested him to attend an enquiry, H failed to attend the scheduled interview on two occasions and declined to show up on the remaining occasion. By the end of 2013, H's particulars were input into the computer system such that ImmD could take the opportunity to follow up the case if H was later intercepted. From 2014 to 2018, the case officers periodically brought up the case file of H to the attention of the Sub-section Head. In early 2019, ImmD conducted a case update and found that H had already passed away in a local hospital in January 2019.

3. ***Investigation on W1 and W2.*** By taking advantage of the marriages with a Hong Kong resident, both W1 and W2 had travelled to Hong Kong by way of “Tanqin” exit endorsement (see Note 33 to para. 3.16) since February 2007 and June 2007 respectively. W2 and W1 were intercepted in September 2014 and August 2016 respectively. W2 and W1 attended ImmD's enquiries in late September 2014 and late August 2016 respectively. After enquiries, ImmD concluded that no prosecution action would be instituted against W1 and W2 due to insufficient evidence.

Case 1 (Cont'd)

Audit comments

4. Audit noted that the case officers had taken actions to contact H but could not successfully locate him for making enquiries and collecting evidence. In Audit's view, ImmD should review this case and draw lessons to step up efforts in locating suspects of bogus marriage cases in future.

Source: Audit analysis of ImmD records

Note: According to section 34(b) of the Crimes Ordinance (Cap. 200), any person who knowingly and wilfully makes, or knowingly and wilfully causes to be made, for the purpose of being inserted in any register of marriage, a false statement as to any particular required by law to be known and registered relating to any marriage, shall be guilty of an offence and shall be liable on conviction upon indictment to imprisonment for 7 years and to a fine.

Audit recommendations

3.32 **Audit has recommended that the Director of Immigration should:**

- (a) **expedite actions to clear the backlog of suspected bogus marriage cases, focusing on cases which have remained outstanding for a long time;**
- (b) **step up checking of suspected bogus marriage cases;**
- (c) **require case officers to send the case files to ICAS for updating the APPLIES records after obtaining endorsement of Section Head to curtail the investigation for the time being;**
- (d) **consider setting a time target for opening of case files for normal cases of suspected bogus marriages, similar to that for priority cases;**
- (e) **ensure that supervisory checks of field operation are conducted as frequently as possible in accordance with ImmD's guidelines; and**
- (f) **review the case (Case 1) examined by Audit and draw lessons to step up efforts in locating suspects of bogus marriage cases in future.**

Response from the Government

3.33 The Director of Immigration agrees with the audit recommendations in paragraph 3.32(a) and (d) to (f), and agrees in principle with those in paragraph 3.32(b) and (c). He has said that ImmD will:

- (a) expedite actions in handling backlog cases by assessing the manpower requirements and taking appropriate measures with a view to trimming down the number of backlog cases;
- (b) step up checking of suspected bogus marriage cases;
- (c) re-circulate the relevant instruction regularly to remind all case officers to send finalised case files to ICAS for updating as well as filing as soon as all necessary follow-up actions are completed;
- (d) issue written guidelines on setting a time target for opening of files for normal cases;
- (e) re-circulate the relevant guideline to remind and ensure all Sub-section Heads to conduct supervisory checks of field operation as frequently as possible and to make proper record of the visits; and
- (f) further review and draw lessons from Case 1 to look for room for improvement in relation to investigation into suspected bogus marriage cases in future.

PART 4: IMPLEMENTATION OF NEXT GENERATION OF APPLICATION AND INVESTIGATION EASY SYSTEMS

4.1 This PART examines ImmD's work in implementing APPLIES-2, focusing on:

- (a) system implementation (paras. 4.2 to 4.7);
- (b) project monitoring and cashflow reporting (paras. 4.8 to 4.15); and
- (c) use of innovative technologies (paras. 4.16 to 4.18).

System implementation

4.2 According to ImmD, a wide range of its core functions is supported by APPLIES-1, including the processing of birth, death and marriage registrations and processing of enforcement and investigation cases (e.g. cases related to unregistered birth and bogus marriage). APPLIES-1 was implemented in phases from 2007 to 2008 with a design usage life of about 10 years. The maintenance contract for APPLIES-1, which expired in February 2019, was extended for another three years until February 2022. In March 2018, the LegCo Panel on Security supported the submission of the funding proposal for implementing APPLIES-2 to FC. In May 2018, FC approved a sum of \$453 million for implementing APPLIES-2 to replace APPLIES-1. According to the funding paper submitted to FC in April 2018:

- (a) the hardware and software of APPLIES-1, which were built on technologies prevailing more than a decade ago, were becoming obsolete and it had become increasingly difficult to secure system maintenance and technical support;
- (b) APPLIES-2, which includes three computer systems, was planned to be implemented in phases. Two systems namely Systems related to Visa Automation (VISAS) and Assistance to Hong Kong Residents, Births, Deaths and Marriage, Right of Abode Decision Support (ABROADS) were expected to be rolled out in the fourth quarter of 2021, and the remaining

system namely Enforcement Case Processing (ENCAPS) was expected to be rolled out in the second quarter of 2022; and

- (c) the contracts of APPLIES-2 were planned to be awarded in the fourth quarter of 2018.

Need to closely monitor the implementation progress of APPLIES-2

4.3 In June 2018, an open tender was issued by the Government Logistics Department (GLD) on behalf of ImmD for procuring two main contracts for the supply and installation of APPLIES-2, and the provision of on-going system support and maintenance services (Note 41). APPLIES-2 comprised two categories, as follows:

- (a) **Category A.** The scope of work involved supply of two systems, namely VISAS and ABROADS; and
- (b) **Category B.** The scope of work involved supply of three systems, namely ENCAPS, Document Management Sub-system (Operations) (DMS(Ops)) and Document Management Sub-system (Administration) (DMS(Adm)). The latter two systems are related to document management for storing and indexing image/documents, and records management (Note 42).

By the close of tender in August 2018, a total of eight offers (Note 43) were received under the two categories. After evaluation, all of the eight offers were found conforming. As it transpired, as additional time was required for clarifications with tenderers on issues relating to tender proposals (e.g. issues on hardware, software and system configuration) and investigation of anonymous complaints on the tenderers, the two contracts (Contracts A and B with scope of work under Categories A and B

Note 41: *The contracts would require the provision of on-going system support and maintenance services for ten years including 12 months' free warranty.*

Note 42: *The three systems (i.e. VISAS, ABROADS and ENCAPS) will share the use of document management systems (i.e. DMS(Ops) and DMS(Adm)), as many of the services supported by APPLIES-2 require the management of a large amount of document images, such as scanned application forms and supporting documents.*

Note 43: *5 offers were received for Category A systems and 3 offers were received for Category B systems.*

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respectively — see Table 14) were respectively awarded to two contractors in November 2019 at a total cost of \$605.5 million (Note 44), about one year after the time target (i.e. the fourth quarter of 2018) stated in the funding paper (see para. 4.2(c)). According to Contracts A and B, the maximum durations allowed for full system rollouts are 37 months and 43 months after contract award respectively. Hence, the deadlines for rollout would be December 2022 for Contract A and June 2023 for Contract B, which were later than the second quarter of 2022 as pledged to FC (see para. 4.2(b)).

Table 14

Contract implementation schedules for APPLIES-2 (November 2019)

Contract	Scope of work	System	Maximum duration for rollout after contract award	Deadline for rollout
A	Category A	ABROADS	37 months	December 2022
		VISAS	37 months	December 2022
B	Category B	DMS(Ops)	13 months	December 2020
		DMS(Adm)	28 months	March 2022
		ENCAPS	43 months	June 2023

Source: ImmD records

Note 44: Funds for the one-off costs for the supply and installation of APPLIES-2 totalling \$272.7 million were available under the project vote under the Capital Works Reserve Fund, while funds for the recurrent costs for the on-going system support and maintenance services totalling \$332.8 million would be absorbed by ImmD's departmental vote.

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4.4 In April 2020, the Project Steering Committee (PSC — Note 45) endorsed a Project Management Plan with a “phased approach” in order to ensure a smooth transition of APPLIES-1 to APPLIES-2 before the expiry of APPLIES-1’s maintenance contract in February 2022. Details of the “phased approach” are as follows (see Table 15 for details):

- (a) **Phase 1.** Existing functions of APPLIES-1 (e.g. birth, death and marriage registrations) which would be covered by APPLIES-2 would be rolled out in this phase. Phase 1 was planned to be rolled out by December 2021; and
- (b) **Phase 2.** New functions of APPLIES-2 (e.g. generation of management reports and workload statistics under ENCAPS) would be rolled out in this phase. Phase 2 was planned to be rolled out by October 2022.

Table 15

“Phased approach” for implementing APPLIES-2 (April 2020)

Contract	System	Scheduled rollout date	
		Phase 1	Phase 2
A	ABROADS	December 2021	October 2022
	VISAS	December 2021	October 2022
B	DMS(Ops)	September 2021	Not applicable
	DMS(Adm)	Not applicable	May 2022
	ENCAPS	December 2021	August 2022

Source: ImmD records

Note 45: *The Project Steering Committee was set up in August 2018 for overseeing and steering the implementation of APPLIES-2. It is chaired by the Deputy Director of ImmD, and consists of members from various divisions of ImmD, and a representative each from the Office of the Government Chief Information Officer (as the information technology advisor) and SB.*

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4.5 Table 16 shows the implementation progress of APPLIES-2 vis-à-vis the time targets stated in the funding paper submitted to FC and the Project Management Plan. The system analysis and design stage was carried out under 2 phases, with the target completion date revised from the fourth quarter of 2020 to March 2021. The rollout of the whole APPLIES-2 was revised from the second quarter of 2022 as stated in the funding paper to October 2022. As of January 2021, Audit noted a delay of about one month in completing Phase 1 of the system analysis and design stage. In March 2021, ImmD informed Audit that the delay was:

- (a) due to the Government's work-from-home arrangements from January to April 2020, which impeded the on-site visits and discussions regarding the existing business workflow of users that were essential for the system analysis and design; and
- (b) caught up gradually and there was no delay in achieving other project milestones afterwards.

Since no maintenance support will be available for APPLIES-1 after February 2022, ImmD needs to closely monitor the progress of APPLIES-2 implementation to ensure that the whole APPLIES-2 is rolled out as scheduled (in particular Phase 1 of APPLIES-2 (covering the existing functions of APPLIES-1) is rolled out by the target completion date of December 2021).

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Table 16

**Implementation progress of APPLIES-2 vis-à-vis time targets
stated in funding paper submitted to FC
and Project Management Plan
(January 2021)**

Stage	Target completion date		Actual completion date	
	Funding paper submitted to FC	“Phased approach” under Project Management Plan		
		Phase 1	Phase 2	
Award of contracts	Fourth quarter of 2018	Not applicable		Nov 2019
System analysis and design	Fourth quarter of 2020	Dec 2020	Mar 2021	Jan 2021
System development and testing	Third quarter of 2021	Jul 2021	May 2022	In progress
User acceptance test	First quarter of 2022	Nov 2021	Aug 2022	Not yet commenced
Production rollout	Fourth quarter of 2021 & second quarter of 2022 (Note)	Dec 2021	Oct 2022	Not yet commenced

Source: Audit analysis of ImmD records

Note: According to the funding paper submitted to FC in April 2018, VISAS and ABROADS were planned to be rolled out in the fourth quarter of 2021, and ENCAPS was planned to be rolled out in the second quarter of 2022 (see para. 4.2(b)).

Audit recommendation

4.6 **Audit has recommended that the Director of Immigration should closely monitor the progress of APPLIES-2 implementation to ensure that the whole APPLIES-2 is rolled out as scheduled (in particular Phase 1 of APPLIES-2 (covering the existing functions of APPLIES-1) is rolled out by the target completion date of December 2021).**

Response from the Government

4.7 The Director of Immigration agrees with the audit recommendation. He has said that PSC and the Working Group (see para. 4.8), and the Immigration Department Information Systems Co-ordination Committee (IDISCC — Note 46) will continue to closely monitor the project progress.

Project monitoring and cashflow reporting

Need to strengthen ImmD's project monitoring of APPLIES-2

4.8 According to the Office of the Government Chief Information Officer (OGCIO) Circular No. 2/2011 “Strengthening the Governance of IT Projects” issued in July 2011: (a) OGCIO plays a more proactive and visible role in monitoring and advising on large scale, complex and high risk projects; and (b) for major projects costing over \$100 million, the Government Chief Information Officer will participate in PSC as advisor (Note 47). Audit notes that, APPLIES-2 project is a time-critical project having regard to the fact that maintenance support to APPLIES-1 will not be available after February 2022 and is a major project with an approved project estimate (APE) exceeding \$100 million. According to ImmD, it has put in place a three-tier project governance structure comprising PSC, a Working Group and a Project Team to oversee the implementation of APPLIES-2 (see Figure 2). To facilitate the project monitoring by PSC and the Working Group, the Project Team regularly submits progress reports (including information such as project status, key activities and milestones, and outlook for next period) on the implementation progress of APPLIES-2 to PSC and the Working Group.

Note 46: *The Committee functions as ImmD's departmental Information Technology Steering Committee to formulate and review departmental policy and strategy concerning information systems, to monitor progress of the implementation of the department's information systems, and to report progress and make recommendations on important issues relating to the existing/under-development information systems. It is chaired by an Assistant Director of ImmD, comprising members including Sub-division Heads and Senior Systems Managers or above in the Information Systems Branch of ImmD.*

Note 47: *The Government Chief Information Officer may appoint a directorate officer to represent OGCIO in PSC on a regular or as-needed basis. For APPLIES-2 project, OGCIO had appointed the Assistant Government Chief Information Officer (Governance & Resources) as the information technology advisor in PSC.*

4.9 Audit examination found that, since November 2019 (date of awarding Contracts A and B) and up to February 2021, PSC and the Working Group had not held regular meetings (either by on-site meeting or video conferencing) to monitor the project progress. During the period, ImmD submitted five progress reports to members of PSC and the Working Group for project monitoring of APPLIES-2 (see Table 17 for details). In response to Audit's enquiry on the project monitoring of APPLIES-2, in March 2021, ImmD said that:

- (a) since the award of Contracts A and B in November 2019, the Project Team had worked with contractors for project initiation and planning. To comply with the Government's social distancing measures and work-from-home arrangements during the outbreak of the COVID-19 epidemic, since February 2020, the Project Team had reported to members of PSC and the Working Group via formal email circulation in lieu of face-to-face meetings regarding the project plan, project status and for seeking comments and endorsement on making contract payments (Note 48);
- (b) apart from submitting progress reports as mentioned above, from February 2020 to January 2021, the Project Team had sent a total of twelve emails to members of PSC and the Working Group to keep them abreast of the updated project progress and seek their timely comments and directives; and
- (c) regarding the adoption of video conferencing during the period of COVID-19 epidemic, although there were some commonly-used video conferencing solutions in the market, as they were mostly riding on public cloud, the data would be sent to public cloud servers which might not be hosted in Hong Kong. Since the APPLIES-2 project involved classified matters, with due consideration on the security and protection of classified information, ImmD had decided not to adopt video conferencing solution for convening PSC and Working Group meetings during the period of COVID-19 epidemic.

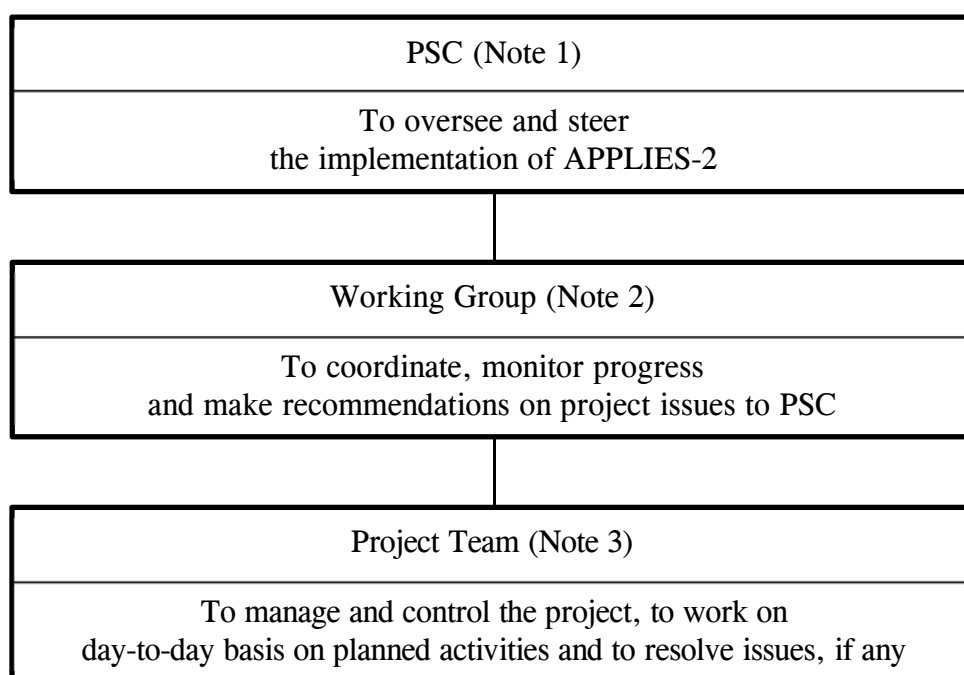
Note 48: *One of PSC's tasks is to consider deliverables submitted by contractors and endorse payments to the contractors.*

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In Audit's view, to ensure that strategic direction from ImmD's Senior Management (see Notes 1 and 2 to Figure 2 in para. 4.8) and OGCIO on project implementation can be sought in a timely manner, ImmD needs to strengthen its project monitoring of APPLIES-2 by holding regular PSC and Working Group meetings in future.

Figure 2

ImmD's APPLIES-2 project governance structure



Source: ImmD records

Note 1: PSC is chaired by the Deputy Director of ImmD, and consists of members from various divisions of ImmD, and a representative each from OGCIO (as the information technology advisor) and SB.

Note 2: The Working Group is chaired by the Assistant Director (Information Systems) of ImmD and consists of members from various divisions of ImmD.

Note 3: The Project Team is headed by Chief Immigration Officers and consists of ImmD staff members.

Table 17

**Submission of progress reports to members
of PSC and Working Group
(November 2019 to February 2021)**

Progress report	Reporting period	Number of months covered
First	29 November 2019 to 30 April 2020	5
Second	1 May 2020 to 30 June 2020	2
Third	1 July 2020 to 31 August 2020	2
Fourth	1 September 2020 to 31 October 2020	2
Fifth	1 November 2020 to 31 December 2020	2

Source: Audit analysis of ImmD records

Monitoring and reporting of the use of unspent funds

4.10 In March 2018, the LegCo Panel on Security supported the submission of the funding proposal for implementing APPLIES-2 to FC. On 4 May 2018, FC approved a sum of \$453 million for implementing APPLIES-2 to replace APPLIES-1 (Note 49). As stated in the funding papers submitted to the Panel and FC in February and April 2018 respectively, the project estimate of APPLIES-2 was \$453 million. The project estimate for the APPLIES-2 project was based on a market research conducted by ImmD's consultant at the stage of feasibility study in March 2016 (\$408 million) and updated by ImmD in early 2018 before seeking FC's approval (\$453 million). According to ImmD:

- (a) the project estimate included an estimated sum of \$313.8 million for all hardware, software and implementation services based on the market research conducted at the stage of feasibility study in March 2016, and the sum was updated to \$342.6 million in early 2018 before FC's approval. ImmD planned to procure the hardware, software and implementation services through tender exercises and direct purchases;

Note 49: *As of March 2020, the actual expenditure of APPLIES-2 Project was \$10.4 million.*

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- (b) with a view to ensuring timely delivery of the APPLIES-2 project and updating the tender sum included in the funding paper submitted to FC, in September 2017, ImmD started to seek approval to invite the first tender (tender for Contracts A and B) before securing funding in accordance with Financial Circular No. 5/2016 “Parallel Tendering for All Contracts” (Note 50). However, before the conditions precedent to the use of parallel tendering could be all met (e.g. specifications of the contract are finalised and agreed by all relevant parties within the Government), the funding application was approved by FC in early May 2018. Therefore, the tender sum was not available before seeking funding approval from FC; and
- (c) based on the result of the updated market research made available in late May 2018, the pre-tender estimate of the first tender (tender for Contracts A and B) was \$365.4 million (Note 51), which was higher than the total estimated sum for all hardware, software and implementation services included in the funding paper submitted to FC (see (a)). The cost estimations in the feasibility study conducted in March 2016 and the cost update conducted in early 2018 (see (a)) were come up by the feasibility study consultant and ImmD respectively. It was inevitable that the estimated prices obtained could vary, particularly when there was a 2-year gap between the two estimations.

4.11 ***Lower-than-expected tender outturn prices.*** In November 2019, contracts for the supply of Categories A and B systems under APPLIES-2 were awarded under Contracts A and B respectively. The one-off costs under the accepted tender prices of the two contracts were \$158.8 million and \$113.9 million respectively, making up a total of \$272.7 million (see Note 44 to para. 4.3). As compared with the updated pre-tender estimate of \$365.4 million, there was a difference of \$92.7 million due to

Note 50: *According to Financial Circular No. 5/2016 “Parallel Tendering for All Contracts” (prevailing at the time of tendering for Contracts A and B) issued in June 2016, Directors of Bureaux/Controlling Officers are allowed to invite tenders before funding is secured, provided that upon the conduct of a risk assessment, they are satisfied that the benefits outweigh the risks involved.*

Note 51: *The market research was concluded on 29 May 2018, after the funding paper was submitted to FC by FSTB on 19 April 2018. As a result, the project estimate in the funding paper submitted to FC was estimated with reference to the result of the feasibility study which was concluded in March 2016 (and updated by ImmD in early 2018 before seeking FC’s approval).*

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lower-than-expected tender outturn prices (\$365.4 million less \$272.7 million). According to the tender report for Contracts A and B:

- (a) the total one-off cost of \$272.7 million, which was 25% or \$92.7 million lower than the pre-tender estimate of \$365.4 million, had been absorbed under the project vote (see Note 44 to para. 4.3); and
- (b) the over-estimation of pre-tender estimate was due to the vendors in the market quoting a higher margin in the cost estimates based on the generalised requirements at the market research stage. Pre-tender estimate was worked out by ImmD according to prices provided by vendors in the stage of feasibility study conducted in March 2016 and further reviewed with reference to the latest lowest price received from market vendors in April 2018. With detailed project requirements and specifications set out in the tender documents, the tenderers were able to understand fully and clearly the project requirements and submit more competitive prices in their tenders, resulting in lower-than-expected tender outturn prices.

The funding approved by FC included \$342.6 million for all hardware, software and implementation services (see para. 4.10(a)). Owing to the lower-than-expected tender prices totaling \$272.7 million received for Contracts A and B, there was a substantial saving.

4.12 ***Need to critically review the cashflow requirements in submitting cashflow update to SB and FSTB.*** After the award of Contracts A and B, in January 2020, on behalf of ImmD, GLD awarded two further contracts (Contracts C and D) to two contractors at a total one-off cost of \$30.3 million for acquiring hardware and software items for APPLIES-2. As shown in Table 18, as of March 2021, the total cashflow requirement of APPLIES-2 project was only \$372.2 million, leaving an estimated unspent fund balance of \$80.8 million. However, Audit noted that in the annual returns on the forecast expenditure of the APPLIES-2 project submitted by ImmD to SB and FSTB from 2018 to 2020, the cashflow requirement in each of the submissions was \$453 million (which was the same as APE) with no unspent fund balance. In March 2021, ImmD said that as the project was actively progressing, there were other expenditures and procurements to be arranged and the unspent fund would transpire only when the contract expenditures were finalised. In Audit's view, ImmD needs to critically review the cashflow requirement of APPLIES-2 when submitting the cashflow update to SB and FSTB in future.

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Table 18

Analysis of unspent funds balance under APPLIES-2 project vote (March 2021)

Particulars	Amount (\$ million)
(a) APE	453.0 (Note)
(b) Cashflow requirements	
(i) Contract A	158.8
(ii) Contract B	113.9
(iii) Contract C	28.3
(iv) Contract D	2.0
(v) Contract staff	40.7
(vi) Site preparation, communication network, consumables, and privacy impact and information technology security risk assessment	<u>28.5</u>
Less	372.2
(c) Estimated unspent funds balance [(a) – (b)]	80.8

Source: Audit analysis of ImmD records

Note: The sum included a contingency of \$41.2 million as provision to cater for additional costs due to unforeseen circumstances (e.g. higher-than-expected tender price).

4.13 Reporting of surplus funds. FSTB and ImmD have put in place a reporting regime on surplus funds, as follows:

- (a) in June 2020, FSTB promulgated a new reporting mechanism to the effect that, for capital non-works projects funded under the Capital Works Reserve Fund which are approved by FC in the 2019-20 legislative session or thereafter with an APE exceeding \$15 million each, in case a contract whose accepted tender price was lower than the estimated contract provision by \$15 million or more (i.e. excess provision), 80% of the excess provision would be reserved administratively by FSTB. The subject bureau/department of the project is required to inform FSTB within

two weeks after the award of the contract. Although the total tender price of Contracts A and B was \$92.7 million lower than the pre-tender estimate (see para. 4.11(a)), since the APPLIES-2 project was approved by FC in May 2018 (2017-18 legislative session), the administrative cap was not applicable; and

- (b) according to ImmD's Information Systems (Development) Division Divisional Instruction No. 1/2019 "Management of Information and Communications Technology Projects", with effect from 17 August 2020, for a contract under existing capital non-works projects approved by FC before the 2019-20 legislative session, when the accepted tender price was lower than the estimated contract provision by \$15 million or more (i.e. the excess provision), the excess provision shall be reported to IDISCC for subsequent following up with FSTB. According to ImmD, the requirement on reporting the excess provision to IDISCC under the Divisional Instruction was not applicable to the surplus funds accrued from the lower-than-expected tender outturn prices of Contracts A and B, as the two contracts were awarded in November 2019 but the relevant requirements in the Divisional Instruction only came into effect on 17 August 2020.

According to Financial and Accounting Regulation 320, where Controlling Officers have reason to believe that funds surplus to requirements exist under a subhead, they shall immediately inform the Secretary for Financial Services and the Treasury so that the excess may be reserved. In view of the estimated unspent fund balance of \$80.8 million as of March 2021 (see para. 4.12), ImmD needs to closely monitor the project expenditure under APPLIES-2 and immediately report to FSTB if there is surplus fund in excess of project requirement.

Audit recommendations

4.14 Audit has *recommended* that the Director of Immigration should:

- (a) **strengthen ImmD's project monitoring of APPLIES-2 by holding regular PSC and Working Group meetings in future;**
- (b) **critically review the cashflow requirement of APPLIES-2 when submitting the cashflow update to SB and FSTB in future; and**

- (c) closely monitor the project expenditure under APPLIES-2 and immediately report to FSTB if there is surplus fund in excess of project requirement.

Response from the Government

4.15 The Director of Immigration agrees with the audit recommendations. He has said that:

- (a) during the COVID-19 epidemic, in addition to official email circulation, ImmD will consider to arrange video conferencing in lieu of on-site meeting for future PSC and Working Group meetings where appropriate;
- (b) ImmD will continue to critically review the cashflow requirement of APPLIES-2 as the project develops and when the actual values of further procurement contracts are available; and
- (c) as the project expenditure is closely monitored by PSC, the Working Group and IDISCC, ImmD will report to FSTB if there is any surplus fund in excess of project requirement comes to notice.

Use of innovative technologies

Need to integrate “iAM Smart” Platform into APPLIES-2

4.16 In response to Members’ enquiries at the FC meeting in May 2018 on whether APPLIES-2 would be compatible with the development of new technologies, such as the electronic identity (renamed as “iAM Smart” Platform in October 2019 — Note 52), so as to best suit the needs of its service users and business nature, ImmD said that it would keep in view the development of new technologies and factor in

Note 52: *“iAM Smart” Platform was one of the key infrastructure projects developed by OGCIO for supporting the development of smart city in Hong Kong. It serves as a one-stop personalised digital services platform enabling members of the public to log in and access various government and commercial e-services. It is the Government’s long-term goal for all government bureaux/departments to support the use of the platform in achieving a more convenient and innovative e-government services.*

compatibility when designing APPLIES-2. In December 2020, “iAM Smart” Platform was launched. Upon enquiry, in January and March 2021, ImmD informed Audit that:

- (a) it had decided to adopt “iAM Smart” Platform in APPLIES-2 electronic services in rolling out Phase 1 by including its adoption in the System Analysis and Design Report endorsed by PSC in July 2020. The Project Team and contractors had completed studying the technical specifications for system integration and related system development was underway; and
- (b) it had been constantly monitoring the trend of electronic services in different countries and planned to extend the electronic services to cover majority of applications and services under APPLIES-2.

Audit considers that ImmD needs to closely monitor the progress of adopting “iAM Smart” Platform in APPLIES-2 electronic services.

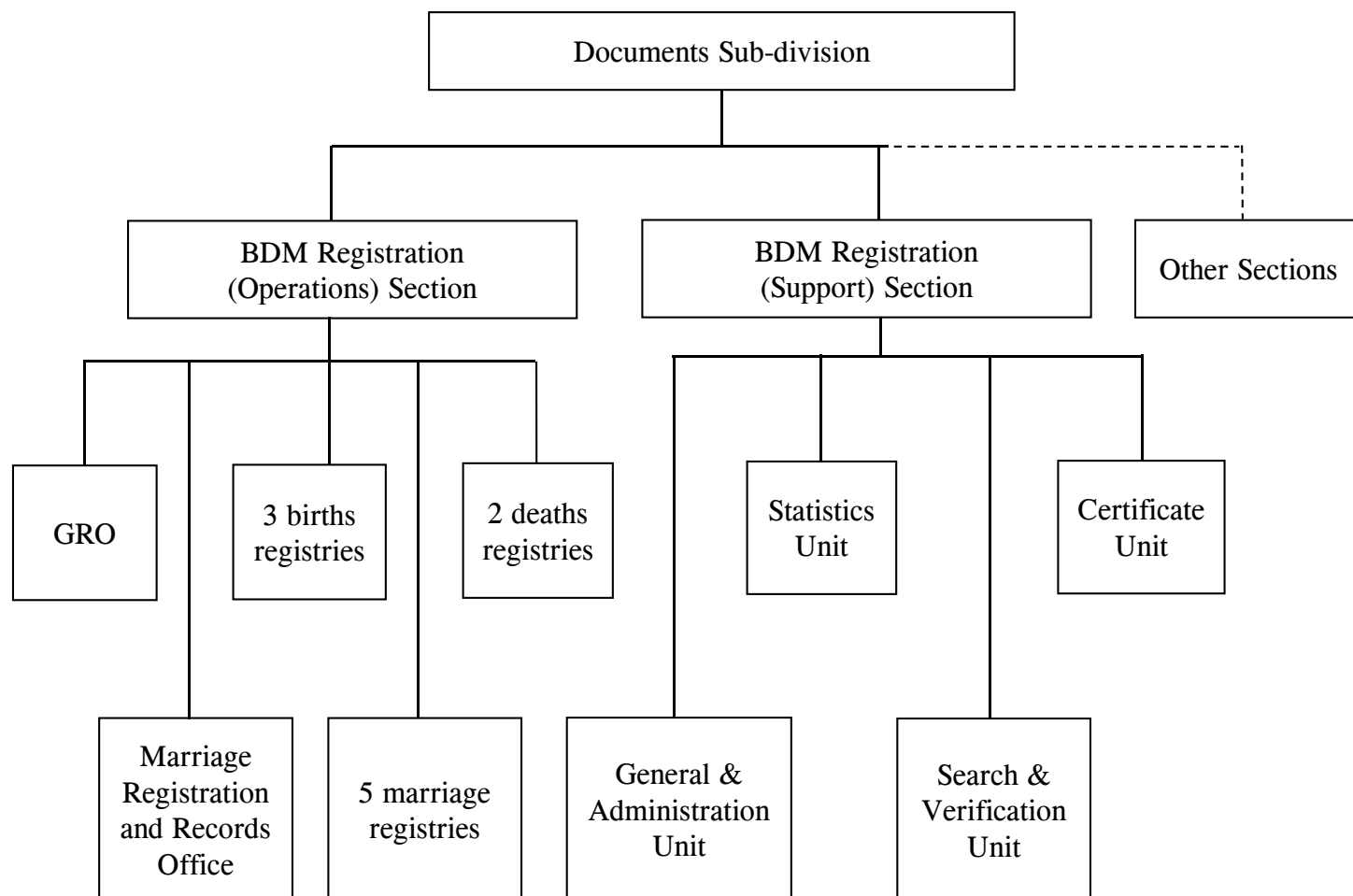
Audit recommendation

4.17 **Audit has *recommended* that the Director of Immigration should closely monitor the progress of adopting “iAM Smart” Platform in APPLIES-2 electronic services.**

Response from the Government

4.18 The Director of Immigration agrees with the audit recommendation. He has said that PSC, the Working Group and the Project Team will closely monitor the adoption of “iAM Smart” Platform in APPLIES-2 electronic services.

**Immigration Department:
Documents Sub-division
organisation chart (extract)
(31 December 2020)**



Source: ImmD records

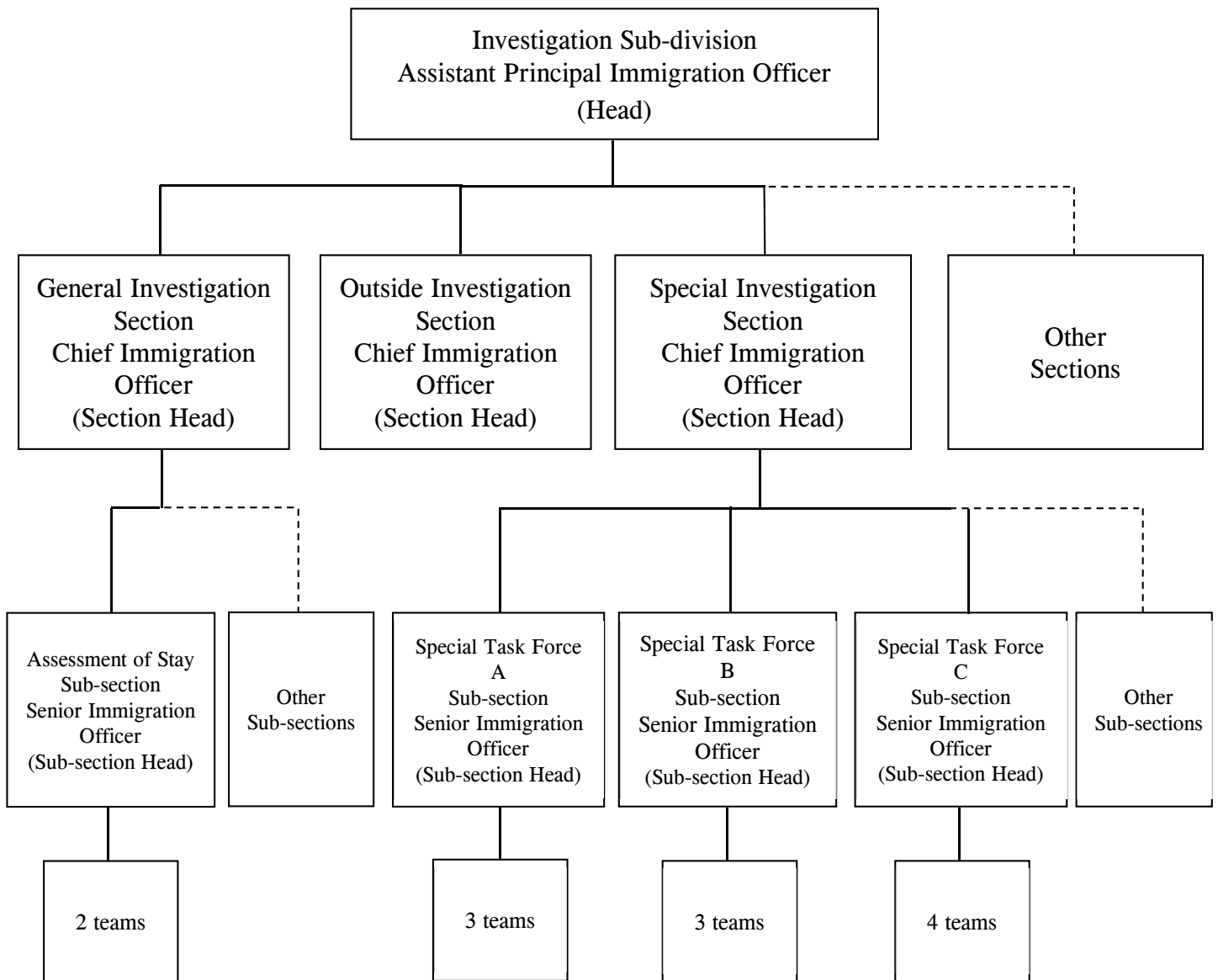
Possible offences relating to bogus marriage

Any person who makes use of bogus marriages, or facilitates other persons to obtain the requisite documents by aiding them in contracting bogus marriages for the purpose of entering Hong Kong commits an offence, as follows:

- (a) any person who committed the offence of making false statement to immigration officers under section 42 of the Immigration Ordinance (Cap. 115) in relation to bogus marriages and applying for entry into Hong Kong through such marriages is liable to imprisonment for up to 14 years and to a maximum fine of \$150,000. Aiders and abettors are also liable to prosecution and the same penalties;
- (b) any person who for the purpose of procuring a marriage, or a certificate or license for marriage, knowingly and wilfully makes a false oath or makes or signs a false declaration, charged with making false statements related to marriage under section 34 of the Crimes Ordinance (Cap. 200), is liable to imprisonment for up to 7 years and to a fine. Aiders and abettors are also liable to prosecution and the same penalties;
- (c) any person charged with conspiracy to defraud is punishable under section 159C of the Crimes Ordinance and sections 2(3) and 4(2) of the Criminal Jurisdiction Ordinance (Cap. 461) and is liable to imprisonment for up to 14 years; and
- (d) any person charged with incitement to commit conspiracy is punishable under section 101I of the Criminal Procedure Ordinance (Cap. 221) and is liable to imprisonment for up to 14 years and to a maximum fine of \$150,000. In addition, any person who, being married, marries any other person during the life of the former husband or wife, charged with bigamy under section 45 of the offences against the Person Ordinance (Cap. 212) is liable to imprisonment to 7 years.

Source: ImmD records

**Immigration Department:
Investigation Sub-division
organisation chart (extract)
(31 December 2020)**



Source: ImmD records

Remarks: The Investigation Sub-division is under the Enforcement Division of ImmD.

**Unregistered birth cases as at 31 October 2020
warranting flexible handling**

Audit observations	Reason for flexible handling				
	Appointment already scheduled/ birth registration completed	Parents/the Social Welfare Department contacted	Timeline falling on non- working day	Service suspension/ special work arrangements	Others
	(Number of cases)				
(a) first reminder letters had not been sent: 43 cases (see para. 2.10(a))	27 (63%)	16 (37%)	N.A.	N.A.	N.A.
(b) with first reminder letters sent, there were delays of 1 to 61 days: 95 cases (see para. 2.10(a))	16 (17%)	23 (24%)	40 (42%)	15 (16%)	1 (1%) (Note)
(c) second reminder letters had not been sent: 31 cases (see para. 2.10(b))	16 (52%)	14 (45%)	N.A.	1 (3%)	N.A.
(d) with second reminder letters sent, there were delays of 1 to 55 days: 16 cases (see para. 2.10(b))	1 (6%)	13 (81%)	N.A.	2 (13%)	N.A.
(e) as at 15 December 2020, outstanding for over six months from the date of birth of the child and had not been referred to GIS: 5 cases (see para. 2.10(c))	N.A.	5 (100%)	N.A.	N.A.	N.A.

Legend: N.A. = Not applicable

Source: ImmD records

Note: This is an overstay mother case referred to GIS. First reminder letter was sent afterwards.

**Waiting time for counter services
at Kowloon Deaths Registry
(2 to 12 January 2021)**

	January 2021								
Date (Note)	2 (Sat)	4 (Mon)	5 (Tue)	6 (Wed)	7 (Thu)	8 (Fri)	9 (Sat)	11 (Mon)	12 (Tue)
<i>Number of counter in operation for processing death registrations and related services</i>									
Average	4	3 to 4	3	4	3	3	4	3	5
<i>Single registration waiting time (minutes)</i>									
Average	26	42	13	14	21	50	7	18	4
Longest	51	87	38	39	57	95	17	64	18
Shortest	1	1	0	0	0	0	0	0	0
<i>Multiple registration waiting time (minutes)</i>									
Average	33	41	17	17	18	57	1	21	7
Longest	46	62	38	34	42	65	1	44	17
Shortest	27	2	3	0	2	48	1	6	0
<i>Overall waiting time (minutes)</i>									
Average	27	42	14	15	20	51	6	18	4
Longest	51	87	38	39	57	95	17	64	18
Shortest	1	1	0	0	0	0	0	0	0

Source: Audit analysis of ImmD records

Note: Saturdays were half working days.

Remarks: As of January 2021, the number of staff of Kowloon Deaths Registry was 8.

Eligibility criteria for a Civil Celebrant of Marriages

The eligibility criteria for a CCM include:

1. Being:

(a) a solicitor:

- (i) holding a current practising certificate issued under section 6 of the Legal Practitioners Ordinance (Cap. 159) which is unconditional save as to the condition of compliance with the Continuing Professional Development Rules (Cap. 159 sub. leg. W) and the Legal Practitioners (Risk Management Education) Rules (Cap. 159 sub. leg. Z); and

- (ii) holding a certificate issued by The Law Society of Hong Kong:

- certifying that he has practised as a solicitor; or
- upon a statutory declaration by him in such form as the Council of The Law Society of Hong Kong may determine certifying that he has been employed while his name is on the roll of solicitors within the meaning of the Legal Practitioners Ordinance to provide legal service to the employer,

for a period or periods in aggregate of not less than 7 years; or

(b) a notary public:

- (i) who holds a current practising certificate issued under section 40E of the Legal Practitioners Ordinance which is unconditional; or
- (ii) who is qualified to practise as a notary public under subsection (1) of section 40D of the Legal Practitioners Ordinance by virtue of subsection (2) of that section.

2. Has not been:

- (a) the subject of a valid order made under section 10(2) of the Legal Practitioners Ordinance by a Solicitors Disciplinary Tribunal constituted under section 9B of that Ordinance;
- (b) removed from or struck off the register of notaries public before 30 June 2005 under section 42 of the Legal Practitioners Ordinance as then in force;
- (c) suspended from practice as a notary public before 30 June 2005 under section 42 of the Legal Practitioners Ordinance as then in force; or
- (d) the subject of a valid order made under section 40J(2) of the Legal Practitioners Ordinance by a Notaries Public Disciplinary Tribunal constituted under section 40I of that Ordinance,

during the 3 years immediately preceding the date of the application for appointment as civil celebrant or renewal of appointment as civil celebrant, as may be appropriate.

3. Having completed such training organised for the purposes of MO as the Registrar may specify.

Source: MO

Acronyms and abbreviations

ABROADS	Assistance to Hong Kong Residents, Births, Deaths and Marriage, Right of Abode Decision Support
APE	Approved project estimate
APPLIES	Application and Investigation Easy Systems
APPLIES-1	First generation of APPLIES
APPLIES-2	Next generation of APPLIES
Audit	Audit Commission
BDM	Births, Deaths and Marriage
BDO	Births and Deaths Registration Ordinance
CAMR	Certificate of Absence of Marriage Record
CCM	Civil Celebrant of Marriages
COR	Controlling Officer's Report
C&SD	Census and Statistics Department
DMS(Adm)	Document Management Sub-system (Administration)
DMS(Ops)	Document Management Sub-system (Operations)
ENCAPS	Enforcement Case Processing
FC	Finance Committee
FSTB	Financial Services and the Treasury Bureau
GIS	General Investigation Section
GLD	Government Logistics Department
GRO	Births and Deaths General Register Office
ICAS	Investigation Central Administration Section
IDISCC	Immigration Department Information Systems Co-ordination Committee
ImmD	Immigration Department
KBR	Kowloon Births Registry
LegCo	Legislative Council
MO	Marriage Ordinance
OGCIO	Office of the Government Chief Information Officer
OIS	Outside Investigation Section

Appendix G
(Cont'd)

OWPs	One-way Permits
PSC	Project Steering Committee
SB	Security Bureau
STF	Special Task Force Sub-sections
SWD	Social Welfare Department
VISAS	Systems related to Visa Automation

CHAPTER 2

Education Bureau

Education support measures for non-Chinese speaking students

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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EDUCATION SUPPORT MEASURES FOR NON-CHINESE SPEAKING STUDENTS

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EDUCATION SUPPORT MEASURES FOR NON-CHINESE SPEAKING STUDENTS

Executive Summary

1. The Education Bureau (EDB) refers to students whose spoken language at home is not Chinese as non-Chinese speaking students (NCS students). In the period from school year 2015/16 to school year 2019/20 (other than calendar years, all years (e.g. 2015/16) mentioned in this Audit Report refer to school years), there was an increasing trend in the number of NCS students. The total number of NCS students attending kindergartens under the Pre-primary Education Voucher Scheme or the kindergarten education scheme, public sector primary schools, secondary schools and special schools, and Direct Subsidy Scheme schools increased by 2,908 (12.6%) from 23,021 to 25,929. The number of NCS students as a percentage of all students increased from 3.0% to 3.4%.

2. Since 2014/15, EDB has introduced a series of enhanced measures to support NCS students' effective learning of Chinese language. In the period from 2015/16 to 2019/20, the expenditure on the education support measures for NCS students increased by \$211.8 million (87%) from \$244.5 million to \$456.3 million. The Audit Commission (Audit) has recently conducted a review of EDB's education support measures for NCS students.

Funding support to schools

3. *Delays in submission of school plans and school reports.* To enhance the support for NCS students, EDB provides eligible schools with enhanced additional funding support for NCS students (NCS Grant). To ensure the proper and effective use of NCS Grant, schools are required to submit to EDB a school plan and a school report on the deployment of the Grant and the support measures every year. Audit found that in 2018/19: (a) of the 152 kindergartens receiving the Grant, 60 (39%) submitted their school plans late (including 18 kindergartens with delays of more than one month) and 73 (48%) submitted their school reports late (including 18 kindergartens with delays of more than one month); and (b) of the 266 primary, secondary and special schools receiving the Grant ranging from \$0.65 million to \$1.5 million, 168 (63%) submitted their school plans late (including 26 schools with

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delays of more than one month) and 176 (66%) submitted their school reports late (including 40 schools with delays of more than one month) (paras. 2.2, 2.7 and 2.8).

4. ***Need to encourage schools to make good use of NCS Grant.*** NCS Grant was first provided to primary, secondary and special schools in 2014/15 and to kindergartens in 2017/18. Audit found that: (a) there were kindergartens that utilised less than half of the Grant provided, accounting for 10% (15 of 149 kindergartens) in 2017/18 and 3% (5 of 152 kindergartens) in 2018/19. Of the 137 kindergartens that were provided with the Grant in both years, 20 (15%) utilised less than 70% of the total amount of the Grant provided during the two-year period; (b) in each school year during the period from 2014/15 to 2018/19, there were primary, secondary and special schools receiving NCS Grant of \$50,000 that utilised less than half of the Grant provided, ranging from 24% (21 of 88 schools) in 2015/16 to 36% (69 of 193 schools) in 2016/17. Of the 41 schools that were provided with the Grant in all the years over the five-year period, 7 (17%) utilised less than 70% of the total amount of the Grant provided during the whole period, including 3 (7%) that utilised less than half of the total amount; and (c) in each school year during the period from 2014/15 to 2018/19, there were primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million that utilised less than half of the Grant provided, improving from 13% (26 of 196 schools) in 2014/15 to 4% (10 of 266 schools) in 2018/19. Of the 184 schools that were provided with the Grant in all the years over the five-year period, 2 (1%) utilised less than 70% of the total amount of the Grant provided during the whole period (para. 2.11).

5. ***Need to improve timeliness of supervisory visits to schools.*** EDB conducts supervisory visits to all kindergartens receiving NCS Grant and primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million to monitor the schools' use of the Grant. Audit found that of the 283 primary, secondary and special schools that first received the Grant ranging from \$0.65 million to \$1.5 million in any school year in the period from 2014/15 to 2018/19, 44 (15%) were neither visited by EDB in the school year they first received the Grant nor visited in the following two school years. By the end of 2019/20, 26 (9%) schools, which were special schools, had not yet been visited by EDB (paras. 2.14 to 2.16).

6. ***Need to improve coverage of feedback collected.*** To review the implementation of support measures for NCS students by schools, EDB collected on a yearly basis, through questionnaires, feedback from major stakeholders of the primary and secondary schools receiving NCS Grant ranging from \$0.8 million to \$1.5 million. In 2019/20, there were 433 kindergartens and 52 special schools

Executive Summary

admitting NCS students. Audit found that the questionnaire survey did not cover kindergartens and special schools (paras. 2.21 and 2.23).

Capacity building for teachers

7. *Need to consider setting professional development requirements.* EDB had not set training requirements for primary, secondary and special schools on teaching NCS students Chinese as a second language. In 2019/20, there were 988 primary, secondary and special schools (with or without NCS students), and 13,794 teachers teaching Chinese Language at these schools. Audit analysed the hours of training provided by EDB to these teachers in the period from 2014/15 to 2019/20 on teaching NCS students Chinese as a second language. Audit found that: (a) of the 988 schools, 252 (26%) did not have teachers who had attended EDB's training during the period. Of the 252 schools, 157 (62%) had NCS students. Of the 157 schools, 4 (3%) had 10 or more NCS students. The total number of NCS students in the 157 schools each year during the period ranged from 231 to 277; and (b) of the 13,794 teachers teaching Chinese Language in the 988 schools, 9,986 (72%) did not attend EDB's training during the period. Among the remaining 3,808 teachers who attended training, the number of training hours attended by many of them was on the low side. For instance, 1,744 (46%) of the 3,808 teachers attended training for 5 hours or less (para. 3.3).

8. *Need to review the way forward for the Professional Enhancement Grant Scheme for Chinese Language Teachers (Teaching Chinese as a Second Language).* In 2014/15, the Professional Enhancement Grant Scheme for Chinese Language Teachers (Teaching Chinese as a Second Language) (PEG Scheme) was launched on a pilot basis. The pilot run of the Scheme has been extended twice until the end of 2021/22 with enhanced incentives. Audit noted that there had been only 99 applications received for the Scheme since its launch in 2014/15. As at end of October 2020, 89 of the 99 teachers had been approved under the Scheme to undertake structured part-time training programmes, representing only 20% of the maximum number of 450 teachers that the Scheme aimed to support (paras. 3.9 and 3.10).

9. *Need to encourage schools to critically review their development needs and make good use of school-based support services.* EDB provides school-based support services (SBSS) to help teachers cater for the needs of NCS students in learning Chinese. The duration of support services is normally one year. Every year, schools can apply for the relevant SBSS according to development needs of their

Executive Summary

teachers. Audit found that schools with NCS students were not very keen to apply for SBSS. In the period from 2014/15 to 2019/20: (a) each school year, there were 106 to 142 schools that received SBSS, representing only 10% to 14% of the total number of schools with NCS students; (b) of the 723 schools with NCS students every year throughout the period, 438 (61%) did not receive any SBSS; and (c) among the 438 schools, many had NCS students accounting for more than 10% of the total number of students in the schools (paras. 3.15 and 3.17).

Other support measures

10. ***Student Support Programme.*** Since 2007, EDB has commissioned a tertiary institution to operate the Student Support Programme for NCS students. The institution supports NCS students who are less proficient in Chinese by offering remedial programmes for these students after school hours or during holidays (para. 4.2). Audit found the following issues:

- (a) ***Decrease in the number of schools nominating NCS students and the number of NCS students nominated.*** In the period from 2015/16 to 2019/20, the number of schools nominating NCS students to enrol in the Programme decreased by 48 (38%) from 128 to 80 and the number of NCS students nominated decreased by 217 (22%) from 974 to 757 (para. 4.3);
- (b) ***Need to improve drop-out rate and attendance rate of students.*** In the period from 2016/17 to 2018/19, of the 2,195 NCS students enrolled in the Programme, 437 (20%) dropped out. Students enrolled in the Programme were divided into about 50 study groups. In each school year, there were 15 to 21 (i.e. 32% to 45%) study groups which had average attendance rates at or below 60% (paras. 4.5 and 4.6);
- (c) ***Need to ensure that students are arranged into study groups according to their learning needs.*** Although NCS students in the same school level may have different Chinese language competencies and learning needs, NCS students enrolled in the Programme are divided into study groups according to school levels. Each school year in the period from 2015/16 to 2019/20, around 51% to 57% of the students found that the study materials used in their study groups were not at the appropriate level of difficulty for them (paras. 4.8 and 4.9); and

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- (d) *Need to improve course instructors' performance and students' performance.* EDB conducts lesson observations to monitor the Programme. Course instructors' performance and students' performance are rated by EDB staff on a scale of 1 to 4. The higher is the rating, the better is the performance. In the period from 2017/18 to 2018/19, EDB conducted lesson observations on 42 study groups. Of the 42 study groups, course instructors' performance was rated "1" and "2" in 2 (5%) and 18 (43%) study groups respectively and students' performance was rated "1" and "2" in 3 (7%) and 14 (33%) study groups respectively. Audit noted that there were deficiencies in course instructors' performance/students' performance in some study groups even though their performance was rated "2" (i.e. "satisfactory") (paras. 4.11 to 4.13).

11. *Need to improve participation rate of Summer Bridging Programme.* Since 2004, primary schools have been invited to run the Summer Bridging Programme during the summer vacation before NCS students start their Primary 1. Since 2007, the Programme has been extended to cover NCS students progressing to Primary 2 to 4. In the period from 2013 to 2019: (a) although the number of NCS students eligible to participate in the Programme increased by 1,226 (22%) from 5,602 to 6,828, the number of NCS students participating in the Programme decreased by 590 (34%) from 1,730 to 1,140; and (b) the participation rate (i.e. number of NCS students participating in the Programme as a percentage of the number of eligible students) was low and decreased continuously from 31% to 17% (paras. 4.16 and 4.18).

12. *Need to endeavour to fulfil the needs of schools and NCS students for life planning education services.* EDB commissioned a non-governmental organisation to implement a pilot project in the period from 2015/16 to 2017/18 to provide life planning education services to NCS students. Starting from 2018/19, EDB has regularised the services. Audit found that in the period from 2018/19 to 2020/21: (a) invitations of quotation were sent to the same five service providers every year; (b) the responses from the service providers were lukewarm; (c) the numbers of schools and NCS students applying for on-site support services on life planning education increased by 19 (112%) from 17 to 36 and by 499 (157%) from 318 to 817 respectively; and (d) due to the limited capacity of the service provider, the numbers of schools and NCS students with unsuccessful applications each year ranged from 7 to 20 and 121 to 497 respectively. The percentages of schools and NCS students with unsuccessful applications each year ranged from 30% to 56% and 35% to 61% respectively (paras. 4.25 to 4.27).

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13. ***Need to improve the disclosure of admission criteria.*** In the first stage (i.e. the Discretionary Places stage) of the Secondary School Places Allocation System, each student may apply to not more than two secondary schools. EDB requires secondary schools to make public prior to admission the admission criteria and weighting of each criterion. However, it does not require them to disclose such information in both Chinese and English. In January 2021, Audit examined the websites of 52 secondary schools and found that: (a) 15 (29%) schools had made public the admission criteria and weighting of each criterion only in Chinese but not in English; and (b) 4 (8%) schools, while making public such information in both Chinese and English, had the icon directing to the English webpage shown in Chinese only (para. 4.36).

14. ***Need to monitor the implementation of support measures.*** In June and July 2017, in the papers submitted to the Panel on Education of the Legislative Council reporting the progress on the implementation of support measures for NCS students in learning Chinese, EDB stated that it would evaluate the effectiveness of the support measures to ensure the quality of these measures and refine individual measures as appropriate. In March 2021, EDB informed Audit that it had been collecting information to monitor the implementation of the support measures and making refinements in an ongoing manner. Audit considers that EDB needs to take on board the observations and recommendations of this Audit Report, and continue to monitor the implementation of the support measures for NCS students and make refinements as necessary (paras. 4.41 and 4.43).

Audit recommendations

15. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Secretary for Education should:**

Funding support to schools

- (a) **take further measures to ensure that schools submit their school plans and school reports on the deployment of NCS Grant and the support measures in a more timely manner (para. 2.12(a));**

Executive Summary

- (b) **step up monitoring of the utilisation of NCS Grant by schools and encourage schools with unjustified underspending to make good use of the Grant (para. 2.12(b));**
- (c) **arrange supervisory visits to schools receiving NCS Grant in a more timely manner (para. 2.19);**
- (d) **strengthen measures to ensure that feedback from major stakeholders of kindergartens and special schools is collected and taken into consideration in formulating support measures for NCS students (para. 2.24);**

Capacity building for teachers

- (e) **consider the need to set appropriate training requirements for primary, secondary and special school Chinese Language teachers on teaching NCS students Chinese as a second language (para. 3.7);**
- (f) **review the way forward for PEG Scheme (para. 3.13);**
- (g) **step up efforts in assisting schools in their review on the needs for capacity building for their teachers and encouraging schools to make good use of SBSS (para. 3.23(a));**

Other support measures

- (h) **promote the Student Support Programme to NCS students and schools (para. 4.14(a));**
- (i) **improve the drop-out rate and the attendance rate of the Student Support Programme (para. 4.14(b));**
- (j) **ensure that students enrolled in the Student Support Programme are arranged into study groups of appropriate levels (para. 4.14(c));**
- (k) **improve the course instructors' performance and students' performance to enhance the effectiveness of the Student Support Programme (para. 4.14(d));**

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- (l) **step up efforts in encouraging schools to nominate NCS students to enrol in the Summer Bridging Programme (para. 4.23(a));**
- (m) **endeavour to increase the capacity in the provision of on-site support services on life planning education (para. 4.29(b));**
- (n) **encourage secondary schools to make public the admission criteria and weighting of each criterion for the Discretionary Places stage of the Secondary School Places Allocation System in both Chinese and English (para. 4.38(c)); and**
- (o) **take on board the observations and recommendations of this Audit Report, and continue to monitor the implementation of the support measures for NCS students and make refinements as necessary (para. 4.44).**

Response from the Government

16. The Secretary for Education agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 The Education Bureau (EDB) refers to students whose spoken language at home is not Chinese as non-Chinese speaking students (NCS students) (Note 1). EDB encourages and supports the integration of NCS students into the community, including facilitating their early adaptation to the local education system and mastery of the Chinese language.

1.3 In the period from school year 2015/16 to school year 2019/20 (Note 2), there was an increasing trend in the number of NCS students. The total number of NCS students attending kindergartens under the Pre-primary Education Voucher Scheme or the kindergarten education scheme (KG Scheme) (Note 3), public sector primary schools, secondary schools and special schools, and Direct Subsidy Scheme (DSS) schools increased by 2,908 (12.6%) from 23,021 in 2015/16 to 25,929 in 2019/20. The number of NCS students as a percentage of all students increased from 3.0% to 3.4% (see Table 1). Figure 1 shows the number of NCS students in 2019/20 analysed by ethnicity.

Note 1: *The scope of this Audit Report covers EDB's education support measures for NCS students studying in kindergartens joining the Pre-primary Education Voucher Scheme/kindergarten education scheme, public sector primary schools, secondary schools and special schools (i.e. government schools, aided schools and caput schools), and Direct Subsidy Scheme schools.*

Note 2: *Other than calendar years, all years (e.g. 2015/16) mentioned in this Audit Report refer to school years. The school years for kindergartens start in August/September and end in July/August of the following year. The school years for primary schools, secondary schools and special schools start in September and end in August of the following year.*

Note 3: *In 2007/08, EDB introduced the Pre-primary Education Voucher Scheme, under which parents were provided with direct fee subsidy, in the form of vouchers, to ease their financial burden and enhance their choice of kindergartens. In 2017/18, EDB replaced the Pre-primary Education Voucher Scheme by KG Scheme, under which subsidies have been directly provided to kindergartens.*

Introduction

Table 1

**Increasing numbers of NCS students
(2015/16 to 2019/20)**

Schools	2015/16	2016/17	2017/18	2018/19	2019/20	Change between 2015/16 and 2019/20
Kindergartens						
No. of NCS students	4,918	5,165	5,274	5,313	5,622	+ 704
No. of all students	139,127	141,127	138,771	132,960	132,823	− 6,304
No. of NCS students as a percentage of all students	3.5%	3.7%	3.8%	4.0%	4.2%	+0.7 percentage point
Primary schools						
No. of NCS students	8,958	9,311	9,622	9,849	10,051	+ 1,093
No. of all students	288,126	297,808	309,047	317,650	317,008	+ 28,882
No. of NCS students as a percentage of all students	3.1%	3.1%	3.1%	3.1%	3.2%	+0.1 percentage point
Secondary schools						
No. of NCS students	8,782	8,990	9,383	9,481	9,821	+ 1,039
No. of all students	329,757	314,965	307,105	301,026	302,175	− 27,582
No. of NCS students as a percentage of all students	2.7%	2.9%	3.1%	3.1%	3.3%	+0.6 percentage point
Special schools						
No. of NCS students	363	367	390	401	435	+ 72
No. of all students	7,703	7,682	7,826	7,939	8,201	+ 498
No. of NCS students as a percentage of all students	4.7%	4.8%	5.0%	5.1%	5.3%	+0.6 percentage point
Overall						
No. of NCS students	23,021	23,833	24,669	25,044	25,929	+ 2,908
No. of all students	764,713	761,582	762,749	759,575	760,207	− 4,506
No. of NCS students as a percentage of all students	3.0%	3.1%	3.2%	3.3%	3.4%	+0.4 percentage point

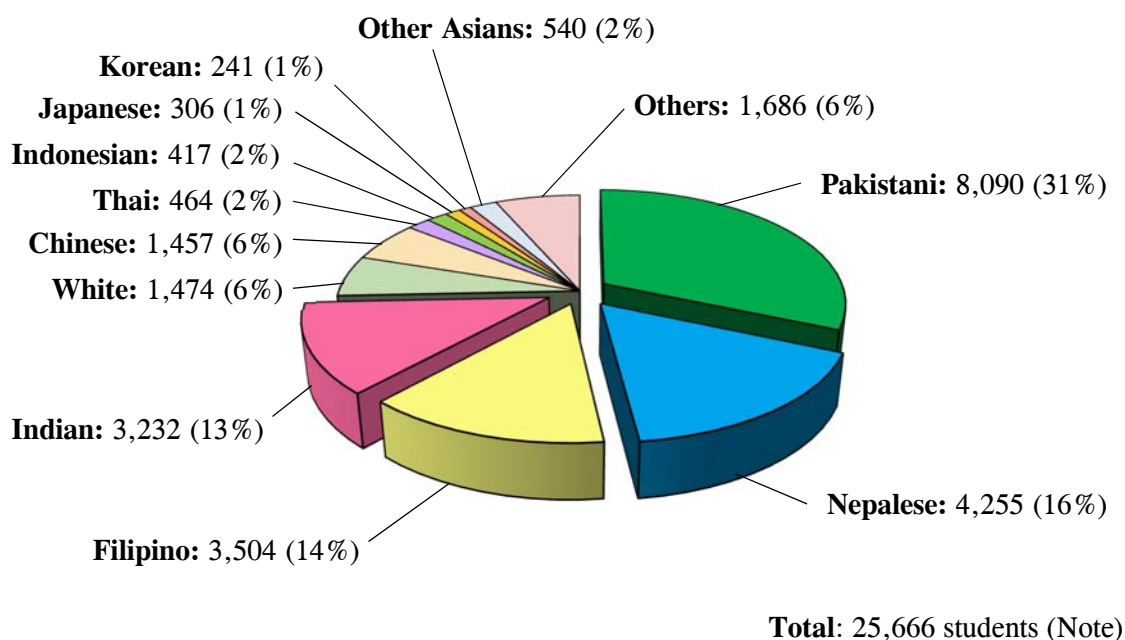
Source: Audit Commission analysis of EDB records

Remarks:

- (a) The figures were collected by EDB through the Enrolment Survey. The number of students reflected the position as at mid-September of the respective school years.
- (b) The figures only included NCS students studying in kindergartens joining the Pre-primary Education Voucher Scheme/KG Scheme, public sector primary schools, secondary schools and special schools, and DSS schools.

Figure 1

**Numbers of NCS students analysed by ethnicity
(2019/20)**



Source: Audit Commission analysis of EDB records

Note: The number of kindergarten NCS students included in this Figure were all NCS students enrolled in the whole school year, whereas other NCS students included in this Figure reflected the position as at mid-September. The small difference between the total number of NCS students in this Figure and that in Table 1 was due to: (a) all NCS students included in Table 1 reflected the position as at mid-September; and (b) NCS students in this Figure included those in DSS schools offering the local curriculum whereas Table 1 included NCS students in all DSS schools.

1.4 With the objective of enhancing the education support measures for NCS students and facilitating NCS students' learning of the Chinese language, and after balancing the views of different stakeholders, including NCS students, their parents and the school sector, EDB revised in 2013/14 the mode of support to schools admitting NCS students and abolished the "designated schools" system. Before 2013/14, annual additional funding was only provided to schools that:

- (a) admitted a critical mass of NCS students;
- (b) had experience in taking care of NCS students; and

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- (c) were ready to partner with EDB to develop school-based support measures and share experience with other schools (Note 4).

1.5 Since 2014/15, EDB has introduced a series of enhanced measures to support NCS students' effective learning of Chinese language. Major support measures are:

- (a) ***Funding support to schools.*** Based on the number of NCS students admitted, additional funding is provided/made available for application starting from 2014/15 for all public sector schools and DSS schools offering the local curriculum with an aim to facilitate the implementation of the "Chinese Language Curriculum Second Language Learning Framework" (Learning Framework — Note 5) and the creation of an inclusive learning environment. Schools are required to set learning targets and adopt diversified intensive learning and teaching modes, such as pull-out learning, split-class/group learning and after-school consolidation, etc., where appropriate with a view to enhancing the effectiveness of NCS students in learning the Chinese language. Schools may also deploy the additional funding to appoint assistants of diverse races and procure professional services such as translation services to strengthen communication with parents of NCS students and organise multi-cultural activities. In addition, with the implementation of KG Scheme starting from 2017/18, a grant comparable to the salary of one kindergarten teacher has been provided to kindergartens joining KG Scheme and admitting eight or more NCS students. Starting from 2019/20, as an enhanced measure, a 5-tiered grant has been provided to kindergartens joining KG Scheme according to the number of NCS students admitted. Kindergartens joining KG Scheme are required to strengthen support for their NCS students, including

Note 4: *2013/14 was a transition year, in which support to schools was provided not under the "designated schools" system nor the new mode. In that year, all schools admitting 10 or more NCS students were provided with an additional funding ranging from \$300,000 to \$600,000.*

Note 5: *The Learning Framework provides a systematic set of objectives and expected learning outcomes that describes the learning progress of NCS students at different learning stages. Teachers may set progressive learning targets, learning progress and expected learning outcomes using a "small-step" learning approach to enhance the learning effectiveness of NCS students.*

supporting them in learning Chinese language, fostering a diversified culture and building an inclusive environment;

- (b) ***Capacity building for teachers.*** To build professional capacity for teachers in teaching NCS students, EDB has implemented the following support measures:
 - (i) ***Professional development for teachers.*** EDB organises various modes of professional development programmes and arranges experience sharing activities. They cover topics such as curriculum planning, and learning and teaching strategies for NCS students' learning of Chinese language. In addition, the Standing Committee on Language Education and Research (SCOLAR) launched the Professional Enhancement Grant Scheme for Chinese Language Teachers (Teaching Chinese as a Second Language) (PEG Scheme — Note 6) in 2014/15. For kindergartens, EDB commissions tertiary institutions to organise courses on support for NCS students' learning of Chinese in kindergartens; and
 - (ii) ***School-based support services (SBSS).*** EDB provides SBSS on enhancing teachers' professional capacity for supporting NCS students to learn Chinese. Measures under SBSS help participating primary, secondary and special schools adapt their school-based Chinese Language curriculum and develop appropriate learning and teaching materials, as well as build professional learning communities and facilitate experience sharing among schools. EDB has also commissioned tertiary institutions to provide SBSS for schools. Each year, schools may apply for SBSS for the year according to their development needs; and
- (c) ***Other support measures.*** EDB has implemented a number of other support measures for NCS students. Examples include:
 - (i) ***Student Support Programme.*** EDB has commissioned a tertiary institution to run a number of centres to operate the Student Support

Note 6: *The Scheme was funded by the Language Fund, which was established in 1994 to enhance the Chinese (including Putonghua) and English language proficiency of the people of Hong Kong through funding a wide range of initiatives for students, the workforce and the general public.*

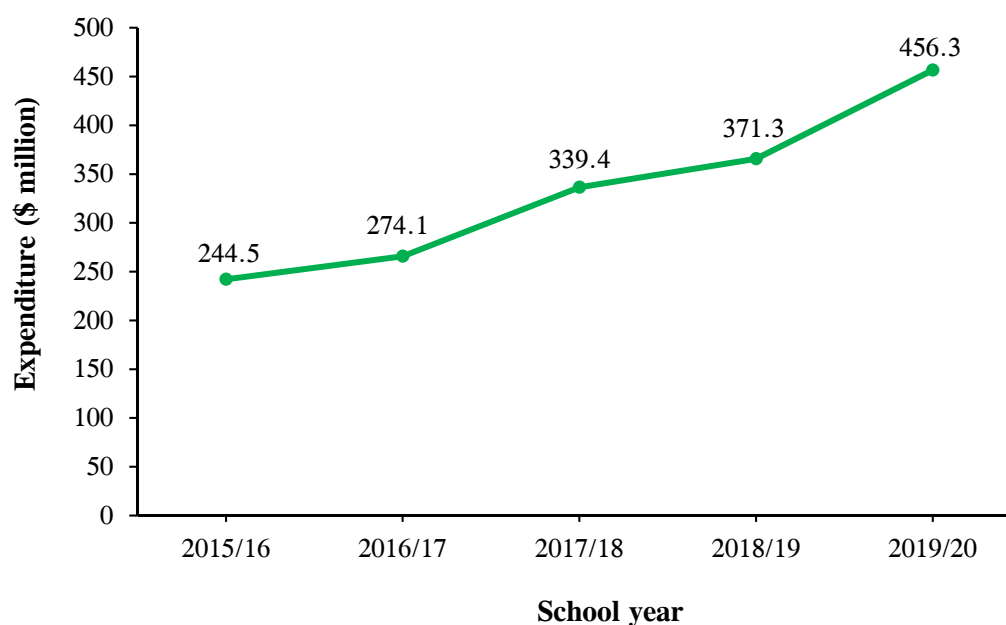
Introduction

Programme for NCS students. The centres support NCS students who are less proficient in Chinese by offering remedial programmes for them after school hours or during holidays; and

- (ii) ***Summer Bridging Programme.*** EDB invites primary schools to run the Summer Bridging Programme during the summer vacation to facilitate upcoming Primary 1 NCS students' adaptation to the classroom setting with the use of the Chinese language and help NCS students progress to Primary 2 to 4.

In the period from 2015/16 to 2019/20, the expenditure on the education support measures for NCS students increased by \$211.8 million (87%) from \$244.5 million to \$456.3 million (see Figure 2).

Figure 2

**Expenditure on education support measures for NCS students
(2015/16 to 2019/20)**

Source: Audit Commission analysis of EDB records

Remarks: The figures excluded some manpower resources and expenses subsumed under the overall expenditure of EDB and/or different funds.

1.6 Various teams of EDB are responsible for the provision of education support measures to NCS students. Appendix A is an organisation chart (extract) showing these teams as at 31 December 2020.

Audit review

1.7 In October 2020, the Audit Commission (Audit) commenced a review of EDB's education support measures for NCS students. This audit review has focused on the following areas:

- (a) funding support to schools (PART 2);
- (b) capacity building for teachers (PART 3); and
- (c) other support measures (PART 4).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from the Government

1.8 The Secretary for Education on the whole agrees with the audit recommendations. He has said that EDB appreciates Audit's efforts in examining the education support measures for NCS students, making balanced observations and positive recommendations. EDB will continue to monitor the implementation of the support measures for NCS students and make refinements as necessary.

Acknowledgement

1.9 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of EDB during the course of the audit review amid the COVID-19 epidemic.

PART 2: FUNDING SUPPORT TO SCHOOLS

2.1 This PART examines EDB's provision of funding support to schools, focusing on the following areas:

- (a) use of funding by schools (paras. 2.4 to 2.13);
- (b) supervisory visits to schools (paras. 2.14 to 2.20); and
- (c) feedback from stakeholders (paras. 2.21 to 2.25).

Background

2.2 To enhance the support for NCS students in learning the Chinese language and the creation of an inclusive learning environment in schools, EDB provides eligible schools with enhanced additional funding support for NCS students (NCS Grant):

- (a) ***Kindergartens.*** Starting from 2017/18, kindergartens joining KG Scheme are eligible for NCS Grant according to the requirements in the respective school years. In 2017/18 and 2018/19, a grant comparable to the annual salary of one basic-rank kindergarten teacher (based on the mid-point of the salary range) was provided per year to kindergartens admitting eight or more NCS students to support NCS students. Starting from 2019/20, a 5-tiered grant ranging from \$50,000 to an amount comparable to the annual salary of two basic-rank kindergarten teachers is provided per year to kindergartens according to the number of NCS students admitted (see Table 2);

Table 2
Amount of NCS Grant for kindergartens
(2019/20)

No. of NCS students admitted	Amount of Grant (\$)
1 – 4	50,000
5 – 7	198,960
8 – 15	397,920
16 – 30	596,880
≥ 31	795,840

Source: EDB records

- (b) **Primary and secondary schools.** Starting from 2014/15, all public sector primary and secondary schools and DSS primary and secondary schools offering the local curriculum and admitting 10 or more NCS students are provided with a 5-tiered grant ranging from \$0.8 million to \$1.5 million per year according to the number of NCS students admitted. Schools admitting 1 to 9 NCS students might apply to EDB for a grant of \$50,000 per year on a need basis for organising after-school support programmes in learning the Chinese language for their NCS students (Note 7) (see Table 3); and
- (c) **Special schools.** Starting from 2014/15, in addition to the number of NCS students admitted, the amount of NCS Grant provided to special

Note 7: Since 2020/21, all schools admitting a relatively small number of NCS students (i.e. 1 to 9 NCS students for ordinary schools and 1 to 5 NCS students for special schools) have been provided with a new 2-tiered subsidy instead. Application for the funding is not required.

schools also depends on whether there are any NCS students taking an ordinary school curriculum (Note 8) (see Table 3):

- (i) ***Special schools admitting 1 to 5 NCS students.*** These schools might apply for a grant of \$50,000 per year on a need basis for organising after-school support programmes in learning the Chinese language for their NCS students (see Note 7 to para. 2.2(b));
- (ii) ***Special schools admitting 6 to 9 NCS students with NCS students taking an ordinary school curriculum.*** A grant of \$650,000 is provided per year to each school;
- (iii) ***Special schools admitting 10 or more NCS students with NCS students taking an ordinary school curriculum.*** Same as ordinary primary and secondary schools offering local curriculum and admitting 10 or more NCS students, the amount of grant is determined by the 5-tiered funding mechanism (see (b) above); and
- (iv) ***Special schools admitting 6 or more NCS students without any NCS students taking an ordinary school curriculum.*** A grant of \$650,000 is provided per year to each school.

Note 8: *Under the principle of “One Curriculum Framework for All”, a special school adopts the Hong Kong School Curriculum Framework to develop a school-based curriculum relevant to the learning capabilities and characteristics of its students. Some students in special schools (e.g. students with intellectual disability) do not pursue an ordinary curriculum and do not go through ordinary assessments and examinations. They are provided with an individualised education programme tailored by their teachers.*

Funding support to schools

Table 3

**Amount of NCS Grant for primary, secondary and special schools
(2014/15 to 2019/20)**

No. of NCS students admitted	Amount of Grant		
	Primary and secondary schools (\$)	Special schools	
		With NCS students taking an ordinary school curriculum (\$)	Without NCS students taking an ordinary school curriculum (\$)
1 – 5	50,000	50,000	
6 – 9		0.65 million	0.65 million
10 – 25	0.80 million		
26 – 50	0.95 million		
51 – 75	1.10 million		
76 – 90	1.25 million		
≥91	1.50 million		

Source: Audit analysis of EDB records

2.3 In the period from 2015/16 to 2019/20, the total amount of NCS Grant provided to eligible schools increased by \$170.2 million (76%) from \$224.0 million to \$394.2 million. The number of eligible schools that received NCS Grant increased by 625 (199%) from 314 to 939.

Use of funding by schools

2.4 According to EDB's guidelines, the ambit of NCS Grant comprises:

- (a) enhancing the support for NCS students' learning of the Chinese language; and

- (b) creating an inclusive learning environment in schools, including strengthening the communication with parents of NCS students and home-school cooperation.

2.5 EDB has provided schools with examples of uses of NCS Grant within the ambit:

- (a) appointing additional Chinese Language teachers/teaching assistants in primary and secondary schools to implement various intensive learning and teaching modes for NCS students (Note 9) to strengthen their learning of the Chinese language, and appointing additional teachers/teaching assistants in kindergartens to support NCS students' learning of Chinese through an integrated thematic approach;
- (b) appointing assistants and/or additional teaching staff to strengthen the communication with NCS students and their parents;
- (c) procuring professional services such as procuring services from non-governmental organisations (NGOs) to organise after-school Chinese learning programmes/activities which promote cultural integration and procuring translation services (e.g. translating school circulars or important matters on school webpages); and
- (d) organising activities or training to enhance teachers' cultural and religious sensitivity.

2.6 Primary, secondary and special schools provided with NCS Grant are also required to assign a dedicated teacher or a dedicated team (Note 10) to coordinate matters relating to the provision of support measures for NCS students.

Note 9: *Examples of modes of learning activities are: (a) pull-out learning; (b) split-class or group learning during Chinese Language lessons; and (c) after-school Chinese learning support.*

Note 10: *Kindergartens joining KG Scheme can flexibly deploy the resources to support NCS students' learning of Chinese through an integrated thematic approach. They are advised to assign a dedicated teacher or a dedicated team to coordinate matters relating to the provision of support measures for NCS students.*

Delays in submission of school plans and school reports

2.7 To ensure the proper and effective use of NCS Grant by schools, EDB requires schools to plan their support measures for NCS students early and review the measures on an ongoing basis. Every year, schools are required to submit to EDB a school plan and a school report on the deployment of the Grant and the support measures, summarising the implementation and the evaluation on the effectiveness of the measures:

- (a) ***Kindergartens.*** A kindergarten is required to submit the school plan by the end of September and the school report by the end of August in the following year;
- (b) ***Primary, secondary and special schools receiving NCS Grant of \$50,000.*** Schools may apply for NCS Grant of \$50,000 on a need basis when deemed necessary throughout the school year. Therefore, EDB has not specified a common deadline for submission of school plans. A school is required to submit the school plan along with the application for the funding. The school report is required to be submitted by the end of November in the following school year; and
- (c) ***Primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million.*** A school is required to submit the school plan of the current school year and the school report of the previous school year (if applicable) by the end of November.

EDB will review the school plans and the school reports submitted by schools to assess their planned and actual uses of NCS Grant and the support measures as provided by the schools to their NCS students with the use of NCS Grant. Based on the results of the reviews, EDB will provide professional advice and support to schools on their planning and implementation of support measures for NCS students where necessary. Schools are reminded by EDB to submit the documents before the respective deadlines.

2.8 According to EDB, the submission of the school plans and the school reports from schools in 2019/20 was affected by the social incidents in 2019 and the outbreak of COVID-19 in 2020. Audit analysed the timing of submission of school plans and school reports in 2018/19 by all kindergartens receiving NCS Grant

(i.e. 152 kindergartens), and the 266 primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million. Audit noted that some schools did not submit their school plans and/or school reports in a timely manner (see Tables 4 and 5):

- (a) ***Kindergartens.*** Of the 152 kindergartens:
 - (i) 60 (39%) kindergartens submitted their school plans late. Of the 60 kindergartens, 18 (30%) submitted their school plans more than one month late; and
 - (ii) 73 (48%) kindergartens submitted their school reports late. Of the 73 kindergartens, 18 (25%) submitted their school reports more than one month late; and
- (b) ***Primary, secondary and special schools.*** Of the 266 primary, secondary and special schools:
 - (i) 168 (63%) schools submitted their school plans late. Of the 168 schools, 26 (15%) submitted their school plans more than one month late; and
 - (ii) 176 (66%) schools submitted their school reports late. Of the 176 schools, 40 (23%) submitted their school reports more than one month late.

Table 4

Ageing analysis of delays in submission of school plans and school reports by kindergartens receiving NCS Grant (2018/19)

Delay (Month)	No. of kindergartens	
	School plan	School report
> 0 – 1	42 (70%)	55 (75%)
> 1 – 2	18	15
> 2 – 3	– } 18	1 } 18
> 3 – 4 (Note)	– } (30%)	2 } (25%)
Total	60 (100%)	73 (100%)

Source: Audit analysis of EDB records

Note: The longest delay was 3.4 months.

Table 5

Ageing analysis of delays in submission of school plans and school reports by primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million (2018/19)

Delay (Month)	No. of schools	
	School plan	School report
> 0 – 1	142 (85%)	136 (77%)
> 1 – 2	26	29
> 2 – 3	– } 26	8 } 40
> 3 – 4 (Note)	– } (15%)	3 } (23%)
Total	168 (100%)	176 (100%)

Source: Audit analysis of EDB records

Note: The longest delay was 3.9 months.

2.9 With a view to enabling EDB to review schools' planned and actual uses of NCS Grant and provide professional advice and support to schools on their planning and implementation of support measures for NCS students in a timely manner, Audit considers that although EDB has reminded schools to submit school plans and school reports before the deadlines, it needs to take further measures to improve the timeliness of the submission.

Need to encourage schools to make good use of NCS Grant

2.10 According to EDB's guidelines:

- (a) schools should optimise the use of NCS Grant disbursed each school year in a timely and prudent manner, and strategically deploy and pool together other school resources to tie in with school-based circumstances so as to provide support for NCS students in the school year;
- (b) as schools may need to gain experience of supporting NCS students and adjust the support strategies and modes to meet the needs of various NCS students, schools may retain part of NCS Grant up to an accumulated level not exceeding the total provision of the Grant for the school year; and
- (c) EDB will claw back surplus in excess based on schools' audited annual accounts.

In 2018/19, a total amount of \$327.8 million of NCS Grant was provided to 650 schools. Of this amount, \$298.8 million (91%) was utilised by the schools. In the same school year, EDB clawed back from 45 schools \$2.44 million of unutilised NCS Grant exceeding the ceiling.

2.11 NCS Grant was first provided by EDB to primary, secondary and special schools in 2014/15 and to kindergartens in 2017/18. Audit examined the utilisation of NCS Grant provided to schools in the period from the introduction of the Grant (i.e. 2014/15 and 2017/18 respectively) to 2018/19 and noted that many schools had not fully utilised the Grant in the school years:

Funding support to schools

- (a) **Kindergartens.** In the two school years 2017/18 and 2018/19:
- (i) in each school year, there were kindergartens that utilised less than half of NCS Grant provided, accounting for 10% (15 of 149 kindergartens) in 2017/18 and 3% (5 of 152 kindergartens) in 2018/19 (see Table 6); and
 - (ii) of the 137 kindergartens that were provided with NCS Grant in both years, 20 (15%) utilised less than 70% of the total amount of the Grant provided during the two-year period, including 2 (1%) that utilised less than half of the total amount;

Table 6

**Utilisation of NCS Grant by kindergartens
(2017/18 and 2018/19)**

Percentage of NCS Grant utilised (%)	No. of kindergartens	
	2017/18	2018/19
0 – <25	5	3
25 – <50	10 } 15 (10%)	2 } 5 (3%)
50 – <75	28 (19%)	17 (11%)
75 – <90	36 (24%)	29 (19%)
90 – 100	70 (47%)	101 (67%)
Total	149 (100%)	152 (100%)

Source: Audit analysis of EDB records

- (b) **Primary, secondary and special schools receiving NCS Grant of \$50,000.**
In the period from 2014/15 to 2018/19:

- (i) in each school year, there were schools that utilised less than half of NCS Grant provided, ranging from 24% (21 of 88 schools) in 2015/16 to 36% (69 of 193 schools) in 2016/17 (see Table 7); and
- (ii) of the 41 schools that were provided with NCS Grant in all the years over the five-year period, 7 (17%) utilised less than 70% of the total amount of the Grant provided during the whole period, including 3 (7%) that utilised less than half of the total amount; and

Table 7

**Utilisation of NCS Grant by primary, secondary and special schools
receiving NCS Grant of \$50,000
(2014/15 to 2018/19)**

Percentage of NCS Grant utilised (%)	No. of schools				
	2014/15	2015/16	2016/17	2017/18	2018/19
0 – <25	12	12	51	43	34
25 – <50	7 } 19 (29%)	9 } 21 (24%)	18 } 69 (36%)	22 } 65 (28%)	23 } 57 (25%)
50 – <75	13 (20%)	9 (10%)	27 (14%)	32 (14%)	29 (12%)
75 – <90	2 (3%)	5 (6%)	17 (9%)	22 (10%)	19 (8%)
90 – 100	32 (48%)	53 (60%)	80 (41%)	110 (48%)	127 (55%)
Total	66 (100%)	88 (100%)	193 (100%)	229 (100%)	232 (100%)

Source: Audit analysis of EDB records

- (c) **Primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million.** In the period from 2014/15 to 2018/19:
 - (i) in each school year, there were schools that utilised less than half of NCS Grant provided, improving from 13% (26 of 196 schools) in 2014/15 to 4% (10 of 266 schools) in 2018/19 (see Table 8); and

Funding support to schools

- (ii) of the 184 schools that were provided with NCS Grant in all the years over the five-year period, 2 (1 %) utilised less than 70% of the total amount of the Grant provided during the whole period.

Table 8

Utilisation of NCS Grant by primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million (2014/15 to 2018/19)

Percentage of NCS Grant utilised (%)	No. of schools				
	2014/15	2015/16	2016/17	2017/18	2018/19
0 – <25	9	3	4	5	–
25 – <50	17 } 26 (13 %)	14 } 17 (8 %)	5 } 9 (4 %)	8 } 13 (5 %)	10 } 10 (4 %)
50 – <75	48 (25 %)	32 (14 %)	28 (12 %)	33 (13 %)	18 (7 %)
75 – <90	42 (21 %)	45 (20 %)	49 (20 %)	52 (21 %)	44 (16 %)
90 – 100	80 (41 %)	128 (58 %)	154 (64 %)	155 (61 %)	194 (73 %)
Total	196 (100 %)	222 (100 %)	240 (100 %)	253 (100 %)	266 (100 %)

Source: Audit analysis of EDB records

Upon enquiry, EDB informed Audit in March 2021 that as schools may need to gain experience of supporting NCS students, especially during their first year of receiving NCS Grant and when they have a marginal NCS student intake that they might have an operational need to retain part of the Grant to sustain the support measures in following years, schools are allowed to retain part of the Grant (see para. 2.10(b)). While noting that NCS Grant was first provided to kindergartens in 2017/18 and they may need to gain experience of supporting NCS students, Audit considers that EDB needs to step up monitoring of the utilisation of NCS Grant by schools and encourage schools with unjustified underspending to make good use of the Grant to support NCS students as far as possible.

Audit recommendations

- 2.12 **Audit has *recommended* that the Secretary for Education should:**
- (a) **take further measures to ensure that schools submit their school plans and school reports on the deployment of NCS Grant and the support measures in a more timely manner; and**
 - (b) **step up monitoring of the utilisation of NCS Grant by schools and encourage schools with unjustified underspending to make good use of the Grant to support NCS students as far as possible.**

Response from the Government

- 2.13 The Secretary for Education agrees with the audit recommendations.

Supervisory visits to schools

Need to improve timeliness of supervisory visits to schools

- 2.14 EDB conducts supervisory visits to schools to monitor the schools' use of NCS Grant. The objectives of supervisory visits include:
- (a) to explain the policy intent and related support measures;
 - (b) to render support for schools on the use of NCS Grant;
 - (c) to provide supplementary information on the support measures for NCS students; and
 - (d) to identify good practices which can be shared with other schools.

Funding support to schools

2.15 According to EDB:

- (a) ***Primary, secondary and special schools receiving NCS Grant of \$50,000.***
For schools receiving NCS Grant of \$50,000 (i.e. the minimum grant amount), EDB monitored schools' use of NCS Grant mainly through examining school plans and school reports submitted by schools and routine telephone and/or email contacts with them. Supervisory visits were conducted only if necessary to provide schools with advice to facilitate their planning and implementation of support measures for NCS students (Note 11); and
- (b) ***All kindergartens receiving NCS Grant, and primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million.*** EDB would accord higher priority to pay supervisory visits to:
 - (i) schools newly provided with NCS Grant normally at the beginning of the school year they started to receive the Grant;
 - (ii) schools that required additional support; and
 - (iii) schools with good practices for sharing with other schools.

2.16 Audit examined the supervisory visits conducted by EDB for all kindergartens receiving NCS Grant in 2017/18 and/or 2018/19, and primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million in any school year in the period from 2014/15 to 2018/19 (Note 12). Audit noted that some schools were not visited in a timely manner:

- (a) ***Kindergartens.*** Of the 164 kindergartens that first received NCS Grant in 2017/18 or 2018/19, 144 (88%) were first visited by EDB in the school

Note 11: *According to EDB, such arrangement has been devised having balanced the schools' situations of optimal use of NCS Grant against the sector's general concern about the administrative workload of teachers.*

Note 12: *According to EDB, the supervisory visits in 2019/20 were affected by the social incidents in 2019 and the outbreak of COVID-19 in 2020.*

year they first received the Grant, and 19 (12%) were visited in the following school year. The remaining kindergarten was not visited as it became ineligible for NCS Grant in 2018/19 and 2019/20; and

- (b) ***Primary, secondary and special schools.*** Of the 283 primary, secondary and special schools that first received NCS Grant ranging from \$0.65 million to \$1.5 million in any school year in the period from 2014/15 to 2018/19 (see Table 9):
- (i) 143 (51%) were first visited in the school year they first received the Grant;
 - (ii) 51 (18%) were first visited in the school year following the school year they first received the Grant;
 - (iii) 45 (16%) were first visited in the second school year following the school year they first received the Grant; and
 - (iv) 44 (15%) were neither visited by EDB in the school year they first received the Grant nor visited in the following two school years, including 6 (2%) schools no longer eligible for the Grant. By the end of 2019/20, 26 (9%) schools, which were special schools, had not yet been visited by EDB.

Table 9

Ageing analysis of timing of EDB's first visit to primary, secondary and special schools receiving NCS Grant ranging from \$0.65 million to \$1.5 million (as at end of 2019/20)

Timing of first visit (school year)	No. of schools that first received NCS Grant					Total
	2014/15	2015/16	2016/17	2017/18	2018/19	
In year of first receiving the Grant	64	26	24	14	15	143 (51%)
In 1st following year	49	—	—	1	1	51 (18%)
In 2nd following year	45	—	—	—	N/A	45 (16%)
In 3rd following year	4	—	—	N/A	N/A	4
In 4th following year	8	—	N/A	N/A	N/A	8
Not visited	26	3	—	2	1	32
Total	196	29	24	17	17	283 (100%)

Legend: N/A – Not applicable

Source: Audit analysis of EDB records

2.17 Upon enquiry, EDB informed Audit in January and March 2021 that:

- (a) balancing the need to visit schools in a timely manner and the constraint of manpower capacity, EDB planned to visit all the ordinary schools receiving NCS Grant once in the first three years upon the launch of the Grant and relevant support measures in 2014/15; and
- (b) such goal was achieved in 2016/17 for most of the schools. As indicated in paragraph 2.16(b)(iv), six schools were no longer eligible for NCS Grant, and thus visits were no longer necessary, leaving behind 12 schools

visited in 2017/18 or 2018/19. The remaining 26 schools not visited were special schools.

2.18 One of the objectives of EDB's supervisory visits is to provide schools with professional advice and support. In Audit's view, such visits would be more effective when conducted in the school year the schools started to receive NCS Grant as far as practicable. Audit considers that EDB needs to take measures to arrange supervisory visits to schools in a more timely manner taking into account the operational and development needs of individual schools.

Audit recommendation

2.19 **Audit has *recommended* that the Secretary for Education should take measures to arrange supervisory visits to schools receiving NCS Grant in a more timely manner taking into account the operational and development needs of individual schools.**

Response from the Government

2.20 The Secretary for Education agrees with the audit recommendation.

Feedback from stakeholders

Need to improve coverage of feedback collected

2.21 To review the implementation of support measures for NCS students by schools, EDB collected on a yearly basis, through questionnaires, feedback from major stakeholders of the primary and secondary schools receiving NCS Grant ranging from \$0.8 million to \$1.5 million. The major stakeholders included:

- (a) principals of the schools;
- (b) coordinators of education support measures for NCS students;

Funding support to schools

- (c) Chinese Language teachers teaching NCS students;
- (d) NCS students and their parents; and
- (e) NGOs that were commissioned by schools to provide support to NCS students.

In 2019/20, 252 primary and secondary schools receiving NCS Grant ranging from \$0.8 million to \$1.5 million were covered by EDB's questionnaire survey.

2.22 According to EDB:

- (a) it collected feedback from kindergartens' personnel (including the principals, teacher coordinators or teachers concerned) through interviews with them during school visits. Given the tender age of the kindergarten students and the fact that it is not common to have heavy engagement with NGOs in kindergartens, EDB considered it not appropriate to collect views from kindergarten students and NGOs; and
- (b) taking into account the special needs of students in special schools, EDB considered it not appropriate to collect views from students in special schools.

2.23 In 2019/20, there were 433 kindergartens and 52 special schools admitting NCS students. While noting EDB's explanations in paragraph 2.22, Audit is concerned that no feedback is collected from major stakeholders of kindergartens and special schools through questionnaire survey. Audit considers that EDB needs to strengthen measures to ensure that feedback from major stakeholders of kindergartens and special schools (e.g. principals and parents) is also collected and taken into consideration in formulating support measures for NCS students in such schools.

Audit recommendation

2.24 Audit has *recommended* that the Secretary for Education should strengthen measures to ensure that feedback from major stakeholders of kindergartens and special schools is collected and taken into consideration in formulating support measures for NCS students in such schools.

Response from the Government

2.25 The Secretary for Education agrees with the audit recommendation.

PART 3: CAPACITY BUILDING FOR TEACHERS

3.1 This PART examines EDB's work on building teachers' professional capacity for supporting NCS students in learning Chinese through professional development for teachers and SBSS, focusing on the following areas:

- (a) professional development requirements (paras. 3.2 to 3.8);
- (b) PEG Scheme (paras. 3.9 to 3.14); and
- (c) SBSS (paras. 3.15 to 3.24).

Professional development requirements

3.2 EDB organises professional development programmes on teaching NCS students Chinese as a second language (for teachers of primary, secondary and special schools) and on supporting the learning and teaching of NCS students (for teachers in kindergartens joining KG Scheme). Examples of such programmes include seminars, workshops and e-learning classes, etc. In June 2018, EDB set a requirement for kindergartens joining KG Scheme that at least one teacher in each kindergarten should complete the Basic Course recognised by EDB. The requirement was implemented in 2 phases:

- (a) **Phase 1.** By 2018/19, kindergartens admitting 8 or more NCS students should meet the requirement; and
- (b) **Phase 2.** By 2020/21, all kindergartens admitting NCS students, regardless of the number of NCS students, should meet the requirement.

In 2018/19, of the 753 kindergartens joining KG Scheme, 152 admitted 8 or more NCS students. All the 152 kindergartens met the training requirement.

Need to consider setting professional development requirements

3.3 Audit noted that EDB had not set training requirements for primary, secondary and special schools on teaching NCS students Chinese as a second language. In 2019/20, there were 988 primary, secondary and special schools (with or without NCS students), and 13,794 teachers teaching Chinese Language at these schools. Audit analysed the hours of training provided by EDB to these teachers in the period from 2014/15 to 2019/20 on teaching NCS students Chinese as a second language and found the following issues:

- (a) ***Some schools did not have teachers who had attended EDB's training.*** Of the 988 schools, 252 (26%) did not have teachers who had attended EDB's training on teaching NCS students Chinese as a second language during the period. Of the 252 schools, 157 (62%) had NCS students. Of the 157 schools, 4 (3%) had 10 or more NCS students. The total number of NCS students in the 157 schools each year during the period ranged from 231 to 277, accounting for 1.2% to 1.4% of the total number of NCS students studying in public sector and DSS schools; and
- (b) ***Many teachers did not attend EDB's training.*** There was no requirement for teachers to attend EDB's training on teaching NCS students Chinese as a second language. Of the 13,794 teachers teaching Chinese Language in the 988 schools (including those not teaching NCS students), 9,986 (72%) did not attend EDB's training during the period. Among the remaining 3,808 teachers who attended the training, the number of training hours attended by many of them was on the low side. For instance, 1,744 (46%) of the 3,808 teachers attended training for 5 hours or less (see Table 10).

Table 10

**Number of hours of EDB's training on teaching NCS students
Chinese as a second language attended by teachers
(2014/15 to 2019/20)**

Training hours	No. of teachers
≤5	1,744 (46%)
> 5 – 15	1,634 (43%)
> 15 – 30	336 (8%)
> 30 – 50	77 (2%)
> 50 – 95	17 (1%)
Total	3,808 (100%)

Source: Audit analysis of EDB records

3.4 Other than the training provided by EDB, teachers have other means of enhancing their professional capacity of teaching NCS students. According to EDB:

- (a) teachers are equipped with professional knowledge, pedagogy and attributes in teaching students of different backgrounds and needs through pre-service teacher education programmes. Professional development for teachers is about providing diversified opportunities and different modes of training for teachers teaching NCS students learning Chinese Language. Other than the structured professional development programmes of different themes offered by EDB, teachers can enrol in programmes/seminars of different duration offered by tertiary institutions. Teachers can also engage in modes other than structured training, such as self-learning through reading or online courses, peer learning and mentorship which usually include collaborative lesson planning and peer lesson observation in their own schools. Their professional capacity can also be enhanced via participation in professional learning communities organised by EDB or network schools of the same districts or the same school sponsoring bodies. Schools may make use of the annual staff development days to invite guest speakers to conduct thematic seminars/workshops for teachers, or apply for the relevant

SBSS according to the professional development needs of their teachers and school contexts;

- (b) teachers have to attend training to fulfil different policy requirements or set their own professional development priorities in consultation with the school management; and
- (c) since the number of NCS students admitted to different schools and their Chinese proficiency vary substantially, training needs differ among schools and teachers. Apart from encouraging teachers to participate in various external training courses and activities organised for teachers, schools also provide opportunities for internal exchange and experience sharing among their teachers.

3.5 Every year, EDB conducts a stakeholder survey targeting major stakeholders such as school principals and school coordinators (see para. 2.21) to collect their views on the education support measures for NCS students. In the stakeholder survey for 2019/20, 504 school principals and school coordinators from 252 primary and secondary schools admitting 10 or more NCS students participated. According to the findings of the survey, the majority of school principals and school coordinators (70% to 94%) supported the setting of training requirements for teachers teaching NCS students Chinese as a second language (see Table 11).

Table 11

Number of school principals and coordinators for schools admitting 10 or more NCS students supporting the setting of training requirements for Chinese Language teachers on teaching NCS students Chinese as a second language (2019/20)

Training requirements	No. of principals	No. of coordinators	Overall
In-service training requirements	237 (94%)	238 (94%)	475 (94%)
Pre-service training requirements	217 (86%)	204 (81%)	421 (84%)
Training hour requirements	183 (73%)	171 (68%)	354 (70%)
Total number of respondents	252 (100%)	252 (100%)	504 (100%)

Source: *Audit analysis of EDB records*

3.6 In Audit's view, setting training requirements can facilitate EDB in ensuring that teachers continue to develop their professional capacity in teaching NCS students Chinese as a second language.

Audit recommendation

3.7 Audit has *recommended* that the Secretary for Education should consider the need to set appropriate training requirements for primary, secondary and special school Chinese Language teachers on teaching NCS students Chinese as a second language, taking into account the growing number of Chinese Language teachers teaching NCS students and the diversified backgrounds and training needs of teachers and varied school contexts.

Response from the Government

3.8 The Secretary for Education agrees with the audit recommendation.

Professional Enhancement Grant Scheme for Chinese Language Teachers (Teaching Chinese as a Second Language)

3.9 In 2014/15, PEG Scheme was launched under the Language Fund on a pilot basis for 3 years from 2014/15 to 2016/17. The objective of PEG Scheme is to provide funding support to help Chinese Language teachers at primary, secondary and special schools acquire relevant qualifications and structured training about the teaching of Chinese to NCS students on a voluntary basis. Under the Scheme, a subsidy is granted to a teacher upon successful completion of a recognised programme of study. Recognised programmes are some designated postgraduate diploma or master's degree programmes offered by local universities. The amount of subsidy is a fixed percentage of the tuition fee, subject to a maximum amount. In 2014, an allocation of \$29 million was earmarked for the Scheme, with a view to supporting a maximum of 450 Chinese Language teachers. In 2016 and 2018, reviews were conducted on the Scheme. After the reviews, the pilot run of the Scheme were extended twice in 2016 and 2018 until the end of 2021/22 with the following enhanced incentives to encourage teachers' participation endorsed by SCOLAR (see para. 1.5(b)(i)):

- (a) in December 2016, the amount of maximum subsidy was adjusted upward from \$30,000 to \$34,000; and
- (b) in December 2018, the subsidy rate was adjusted upward from 30% to 50% of the tuition fee and the amount of maximum subsidy was further adjusted upward from \$34,000 to \$64,000.

Need to review the way forward for PEG Scheme

3.10 Audit noted that only 99 applications had been received for PEG Scheme since its launch in 2014/15. As at end of October 2020, 89 of the 99 teachers concerned had been approved under the Scheme (Note 13) to undertake structured part-time training programmes, representing only 20% of the maximum number of 450 teachers that the Scheme aimed to support (see Table 12). The total amount of subsidy provided under the Scheme was \$2.77 million as at December 2020.

Note 13: *Of the remaining 10 applications, 2 were not successful because they failed to meet the stipulated requirements, 3 had been withdrawn and 5 were being processed.*

Table 12**Number of teachers approved under PEG Scheme to undertake training programmes (2014/15 to 2020/21)**

School year	No. of teachers approved
2014/15	32
2015/16	25
2016/17	11
2017/18	0
2018/19	8
2019/20	10
2020/21	3
Total	89

Source: Audit analysis of EDB records

3.11 Upon enquiry about the lukewarm response to the Scheme, EDB informed Audit in March 2021 that:

- (a) in preparing for the review on the Scheme in 2016, a survey was conducted, which revealed that around 30% of the school heads responding to the survey did not encourage their teachers to apply for the grant because of various reasons, for example, the NCS student intake in their schools was low and their teachers had already participated in other professional development activities. The results of the survey were reported to SCOLAR;
- (b) given that the commitment in terms of the time required to complete the study programmes (two to three years) as well as the tuition fee was heavy, it was inevitable that teachers might be hesitant in joining the Scheme; and

- (c) as a result, despite the implementation of some enhancement measures, the response to the Scheme was not encouraging.

3.12 The pilot run of PEG Scheme will end soon in 2021/22. Audit considers that EDB needs to review the way forward for PEG Scheme taking into account the lukewarm response from teachers to the Scheme.

Audit recommendation

3.13 **Audit has *recommended* that the Secretary for Education should review the way forward for PEG Scheme taking into account the lukewarm response from teachers to the Scheme.**

Response from the Government

3.14 The Secretary for Education agrees with the audit recommendation.

School-based support services

3.15 EDB provides SBSS to help teachers cater for the needs of NCS students in learning Chinese. The duration of support services is normally one year. Every year, schools can apply for the relevant SBSS according to development needs of their teachers. Schools that have not been allocated SBSS previously are given a higher priority. The support services under SBSS are:

- (a) ***On-site professional support services.*** EDB provides on-site professional support services to teachers to meet their specific needs, such as reviewing and developing school-based curricula, collaborative lesson planning and formulating development plans and professional development programmes;
- (b) ***University-School Support Programme (USP).*** Under USP, EDB commissions tertiary institutions for providing professional support services to schools under various projects. The projects draw on professional knowledge from the tertiary institutions, connect pedagogical theory and classroom practice, and provide a diversified mode of support services to

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teachers. Each project has a specific theme. Examples of the themes are “Effective Student Transition: Facilitating the Learning of the Chinese Language of NCS Kindergarten Students in the Transition to Primary School” and “Supporting the Learning and Teaching of Chinese Language for NCS Students in Secondary Schools”;

- (c) ***Professional Development Schools Scheme.*** Under the Professional Development Schools Scheme, schools with exemplary practices in learning and teaching and a good sharing culture form a network to promote inter-school collaboration and professional exchange through various exchange activities, such as collaborative lesson planning and experience sharing sessions;
- (d) ***School Support Partners (Seconded Teacher) Scheme.*** Under the School Support Partners (Seconded Teacher) Scheme, experienced teachers are seconded to EDB to provide support services to other teachers and to establish professional sharing platforms for enhancing teachers’ professional capacity; and
- (e) ***Professional Learning Communities.*** EDB establishes Professional Learning Communities for teachers with common concerns and interests regarding the learning and teaching of Chinese for NCS students to promote cross-school collaboration and to share experiences and resources.

3.16 For the period from 2014/15 to 2019/20, 352 schools (comprising 159 kindergartens, 98 primary schools, 80 secondary schools and 15 special schools) received SBSS. According to EDB:

- (a) during the period, on average, 132 school applications (comprising an average of 47 kindergartens, 47 primary schools, 34 secondary schools and 4 special schools) were received each year and 126 schools (ranging from 106 to 142, comprising an average of 46 kindergartens, 46 primary schools, 30 secondary schools and 4 special schools) were allocated SBSS;
- (b) the average percentage of schools that applied for and were allocated SBSS was above 95%. This reflected that SBSS had been provided to the vast majority of schools in need;

- (c) EDB often reviews schools' needs for SBSS in enhancing their teachers' professional capacity for supporting NCS students in learning Chinese and promotes SBSS through different measures;
- (d) different Divisions within EDB hold liaison meetings and contact regularly to identify schools in need. The schools identified are encouraged to apply for SBSS and their applications are accorded priority; and
- (e) territory-wide dissemination sessions are conducted by EDB and service providers for sharing of good practices and experience gained under SBSS with a view to enhancing the professional knowledge and skills of teachers concerned as well as promoting SBSS to a wider spectrum of schools with diverse needs.

Need to encourage schools to critically review their development needs and make good use of SBSS

3.17 Audit analysed the number of schools receiving SBSS in the period from 2014/15 to 2019/20 and noted room for encouraging schools with NCS students to critically review whether they should make good use of SBSS to suit their development needs:

- (a) each school year, there were 106 to 142 schools that received SBSS, representing only 10% to 14% of the total number of schools with NCS students (see Table 13);
- (b) of the 723 schools with NCS students every year throughout the period, 438 (61%) did not receive any SBSS; and
- (c) among the 438 schools, many had NCS students accounting for more than 10% of the total number of students in the schools. For example, in 2019/20, in 52 (12%) of the 438 schools, more than 10% of their students were NCS students.

The situation might reflect that whilst the demand for SBSS has stabilised, the schools with NCS students were not very keen to apply for SBSS.

Table 13

**Percentage of schools with NCS students that received SBSS
(2014/15 to 2019/20)**

School year	No. of schools receiving SBSS (a)	No. of schools with NCS students (b)	Percentage of schools receiving SBSS (c) = (a) ÷ (b) × 100%
2014/15	142	1,017	14%
2015/16	131	1,033	13%
2016/17	112	1,042	11%
2017/18	106	1,056	10%
2018/19	121	1,088	11%
2019/20	141	1,108	13%

Source: Audit analysis of EDB records

Remarks: In the period from 2014/15 to 2015/16, all applications for SBSS were successful and were provided with the services. In the period from 2016/17 to 2019/20, 4 to 14 applications each year were not successful for reasons including: (a) having received SBSS for NCS students for one year or more in the past (i.e. one to five years); (b) being allocated with Chinese-related support services covering NCS students in the year; and (c) not admitting any NCS students in the year.

3.18 Upon enquiry, EDB informed Audit in March 2021 that the following could be the reasons why the schools with NCS students were not very keen to apply for SBSS:

- (a) EDB provides multifarious types of support to schools with intake of NCS students (including funding, teacher training and student support) and SBSS is just one of them. It is a very intensive type of professional development that asks for a year-long commitment of schools and a critical mass of their teachers, which might not suit the needs and contexts of individual schools;

- (b) the NCS student concentration varies a lot across schools, and schools of different concentrations of NCS students have different support needs;
- (c) the background of NCS students varies greatly and so do their support needs; and
- (d) the professional capacity of teachers varies among different schools and the schools may not find SBSS best suit their teachers' professional development needs.

3.19 Audit considers that EDB needs to:

- (a) assist schools in their review on the needs for capacity building for their teachers and exploration on the appropriate means of SBSS with a view to maximising the effectiveness of learning and teaching of NCS students; and
- (b) step up efforts in encouraging schools to critically review their development needs and make good use of SBSS where necessary. For instance, EDB may step up efforts in reaching out to schools with support needs but not submitting applications through more promotional work such as inviting them to attend EDB's dissemination activities.

Need to devise clear guidelines on school visits

3.20 Under EDB monitoring mechanism on USP projects, school visits were conducted to carry out on-site evaluation. Audit analysed the school visits conducted by EDB on the six USP projects completed in the period from 2014/15 to 2018/19 and noted that:

- (a) the percentage of schools visited by EDB in the six projects varied significantly, ranging from 20% to 77% of the participating schools, averaging 33% (see Table 14); and
- (b) the frequency of visits per school varied significantly. While 142 (67%) of the 212 participating schools in the six projects were not visited by EDB,

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28 (13%) schools were visited more than once (Note 14). In particular, one school was visited five times by EDB (including one follow-up visit — see Table 15).

There was no documentary evidence showing the justifications for the differences in the frequency of visits to individual schools and in the coverage of schools. EDB had not issued clear guidelines on the criteria of selecting schools for visit.

Table 14

**Number and percentage of participating schools visited by EDB under USP
(2014/15 to 2018/19)**

Project	No. of participating schools (a)	No. of schools visited (b)	Percentage of schools visited (c) = (b) ÷ (a) × 100%
A	80	16	20%
B	13	10	77%
C	28	11	39%
D	25	9	36%
E	26	11	42%
F	40	13	33%
Overall	212	70	33%

Source: Audit analysis of EDB records

Remarks: A school which had participated in more than one project was correspondingly counted more than once in the overall number.

Note 14: *Of the 212 schools, 34 were visited more than once. However, ten visits to the 34 schools were follow-up visits. If follow-up visits were excluded, 28 schools were visited more than once.*

Table 15

**Analysis of frequency of EDB's visits to schools
(2014/15 to 2018/19)**

No. of visits conducted by EDB	No. of participating schools						
	Project A	Project B	Project C	Project D	Project E	Project F	Total
0	64 (80%)	3 (23%)	17 (61%)	16 (64%)	15 (58%)	27 (68%)	142 (67%)
1	8 (10%)	2 (15%)	6 (21%)	5 (20%)	4 (15%)	11 (28%)	36 (17%)
2	8 (10%)	6 (46%)	5 (18%)	2 (8%)	7 (27%)	1 (2%)	29 (13%)
3	—	1 (8%)	—	2 (8%)	—	1 (2%)	4 (2%)
4	—	—	—	—	—	—	—
5	—	1 (8%)	—	—	—	—	1 (1%)
Overall	80(100%)	13(100%)	28(100%)	25(100%)	26(100%)	40(100%)	212(100%)

34
(16%)

Source: Audit analysis of EDB records

Remarks:

- (a) *A school which had participated in more than one project was correspondingly counted more than once in the overall number.*
- (b) *If follow-up visits were excluded, 28 of the 34 schools were visited more than once.*

3.21 Upon enquiry, EDB informed Audit in March 2021 that:

- (a) EDB had long been monitoring the quality of SBSS provided by service providers through various means, taking into consideration the manpower strengths, the support focuses of the projects and the needs of individual schools. On-site monitoring was only one of them;
- (b) apart from on-site monitoring of USP projects, EDB also conducted annual surveys and focus group interviews with the participating schools;

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- (c) throughout the year, EDB maintained close communication with the service providers through formal and informal meetings such as phone calls and emails. Service providers were also required to submit interim reports and annual reports to detail their support progress and effectiveness;
- (d) feedback was collected from the participating schools to make sure that the support services had well catered for their professional development needs; and
- (e) in case of schools with specific concerns (e.g. schools with teachers who were reluctant to change, schools that were difficult to reach), EDB exercised professional judgement and paid more visits to them with the service providers to better address individual needs.

3.22 After the completion of the six projects in 2018/19, EDB commissioned four projects to tertiary institutions in 2019/20 and 2020/21 to continue the provision of professional support services. For these four projects, EDB also conducted school visits to carry out on-site evaluations as part of its monitoring mechanism. To ensure that school visits are conducted cost-effectively in achieving the intended objectives, Audit considers that EDB needs to issue clear guidelines specifying the coverage in selecting schools to visit and the factors that should be considered in school selection.

Audit recommendations

3.23 **Audit has *recommended* that the Secretary for Education should:**

- (a) **step up efforts in assisting schools in their review on the needs for capacity building for their teachers and encouraging schools to make good use of SBSS where necessary with a view to maximising the effectiveness of learning and teaching of NCS students; and**
- (b) **issue clear guidelines on the on-site evaluation of projects commissioned to tertiary institutions under SBSS, specifying the coverage in selecting schools to visit and the factors that should be considered in school selection.**

Response from the Government

3.24 The Secretary for Education agrees with the audit recommendations.

PART 4: OTHER SUPPORT MEASURES

4.1 This PART examines issues relating to other support measures for NCS students, focusing on the following areas:

- (a) Student Support Programme (paras. 4.2 to 4.15);
- (b) Summer Bridging Programme (paras. 4.16 to 4.24);
- (c) life planning education services (paras. 4.25 to 4.30);
- (d) information to facilitate school choices (paras. 4.31 to 4.39); and
- (e) enhancement of support measures (paras. 4.40 to 4.45).

Student Support Programme

4.2 Since 2007, EDB has commissioned a tertiary institution to run a number of learning centres to operate the Student Support Programme for NCS students. The centres support NCS students who are less proficient in Chinese by offering remedial programmes for these students after school hours or during holidays. In the period from 2015/16 to 2019/20, the total number of centres operated by the tertiary institution in various districts was about 20 (ranging from 19 to 22). The annual expenditure incurred for operating the centres ranged from \$2.9 million to \$4.7 million.

Decrease in the number of schools nominating NCS students and the number of NCS students nominated

4.3 The Student Support Programme offers assistance to NCS students free of charge. In August/September every year, EDB invites public sector primary and secondary schools and DSS schools (Note 15) to nominate NCS students to enrol in

Note 15: *For DSS schools, only NCS students with fee remission are eligible to enrol in the Student Support Programme.*

the Student Support Programme. Audit examined the number of students nominated by schools in the period from 2015/16 to 2019/20 and noted that:

- (a) the number of schools nominating NCS students decreased by 48 (38%) from 128 in 2015/16 to 80 in 2019/20. Of the schools admitting NCS students, the percentage of schools that nominated NCS students decreased from 21% in 2015/16 to 13% in 2019/20 (see Table 16); and

Table 16

**Number and percentage of schools with NCS students
nominating NCS students to the Student Support Programme
(2015/16 to 2019/20)**

School year	No. of schools		
	With students nominated	Without students nominated	Total
2015/16	128 (21%)	480 (79%)	608 (100%)
2016/17	143 (24%)	456 (76%)	599 (100%)
2017/18	98 (16%)	518 (84%)	616 (100%)
2018/19	82 (13%)	551 (87%)	633 (100%)
2019/20	80 (13%)	553 (87%)	633 (100%)

Source: Audit analysis of EDB records

Remarks: The number of schools includes public sector primary and secondary schools and DSS schools and does not include special schools.

- (b) the number of NCS students nominated decreased by 217 (22%) from 974 in 2015/16 to 757 in 2019/20, after reaching a peak of 1,057 students in 2016/17 (see Table 17).

Table 17

**Number and percentage of NCS students nominated to
the Student Support Programme
(2015/16 to 2019/20)**

School year	No. of NCS students		
	Nominated	Not nominated (Note)	Total
2015/16	974 (5%)	16,766 (95%)	17,740 (100%)
2016/17	1,057 (6%)	17,244 (94%)	18,301 (100%)
2017/18	724 (4%)	18,281 (96%)	19,005 (100%)
2018/19	811 (4%)	18,519 (96%)	19,330 (100%)
2019/20	757 (4%)	19,115 (96%)	19,872 (100%)

Source: Audit analysis of EDB records

Note: The number of NCS students studying in DSS schools without fee remission (see Note 15 to para. 4.3), if any, had not been excluded because EDB had not collected information on the number of such students.

4.4 Upon enquiry, EDB informed Audit in March 2021 that:

- (a) the decrease in the number of schools nominating NCS students to the Student Support Programme and in the number of students nominated might be attributable to the fact that starting from 2014/15, EDB had put in place a series of enhanced support measures for NCS students covering funding support, professional development for teachers, SBSS, etc. Schools admitting NCS students had been provided with more resources for developing school-based programmes to suit the learning needs of their NCS students; and
- (b) every school year, EDB sent letters to all public sector primary and secondary schools and DSS schools in August/September and conducted briefing session in September to invite schools to nominate NCS students to enrol in the Student Support Programme.

While recognising EDB's efforts in enhancing various support measures for NCS students, Audit considers that EDB needs to take measures to promote the Student Support Programme to NCS students and schools with a view to encouraging schools to nominate NCS students to enrol in the Programme.

Need to improve drop-out rate and attendance rate of students

4.5 In the period from 2016/17 to 2018/19 (Note 16), of the 2,195 NCS students enrolled in the Student Support Programme, 437 (20%) dropped out of the Programme (see Table 18).

Table 18

**Number of NCS students dropping out
of the Student Support Programme
(2016/17 to 2018/19)**

School year	No. of NCS students		Drop-out rate (c) = (b) ÷ (a) × 100%
	Enrolled (a)	Dropped out (b)	
2016/17	805	169	21 %
2017/18	686	130	19 %
2018/19	704	138	20 %
Overall	2,195	437	20 %

Source: Audit analysis of EDB records

4.6 Students enrolled in the Student Support Programme are divided into about 50 study groups. The study groups are conducted after school from Monday to Friday or on Saturday mornings. Each week, there are 1 to 2 lessons of about 1 to 3 hours per lesson. Audit analysed the attendance of the students in the period from 2016/17 to 2018/19 (see Note 16 to para. 4.5) and noted that:

Note 16: *According to EDB, the Student Support Programme in 2019/20 was affected by the social incidents in 2019 and the outbreak of COVID-19 in 2020.*

Other support measures

- (a) the overall average attendance rate of all the study groups was 67% in 2016/17, 64% in 2017/18 and 69% in 2018/19; and
- (b) in each school year, 15 to 21 study groups (i.e. 32% to 45% of total number of study groups) had average attendance rates at or below 60% (see Table 19).

Table 19

**Average attendance rates of study groups
under the Student Support Programme
(2016/17 to 2018/19)**

School year	No. of study groups				
	Average attendance rate				Total
	≤ 40%	> 40% to 60%	> 60% to 80%	> 80%	
2016/17	3 (6%)	13 (27%) 16 (33%)	22 (46%)	10 (21%)	48 (100%)
2017/18	2 (4%)	19 (41%) 21 (45%)	16 (35%)	9 (20%)	46 (100%)
2018/19	1 (2%)	14 (30%) 15 (32%)	16 (35%)	15 (33%)	46 (100%)

Source: Audit analysis of EDB records

4.7 Upon enquiry, EDB informed Audit in March 2021 that:

- (a) given the series of enhanced support measures for NCS students put in place by EDB starting from 2014/15 as mentioned in paragraph 4.4(a), schools had been providing more after-school activities and school-based support to NCS students in recent years; and
- (b) since there might be time clash with other student programmes and activities conducted after school and on Saturdays, NCS students might have difficulties in attending EDB's lessons.

Audit considers that EDB needs to take measures to encourage and facilitate students to attend lessons, and improve the drop-out rate and the attendance rate of the Student Support Programme (e.g. by addressing the issue of time clash).

Need to ensure that students are arranged into study groups according to their learning needs

4.8 Although NCS students in the same school level may have different Chinese language competencies and learning needs, NCS students enrolled in the Student Support Programme are divided into study groups according to school levels. For instance, Primary 1 students are arranged into the same group while Primary 2 students are arranged into another group. Audit noted that many NCS students found that the study materials used in their study groups were not appropriate for their learning level.

4.9 Every year, NCS students are invited to give views on the Student Support Programme by completing a questionnaire. One of the questions in the questionnaire asks NCS students to rate the difficulty of the study materials used in their study groups by a five-point scale, namely “very difficult”, “quite difficult”, “just right”, “quite easy” and “too easy”. Audit examined the results of questionnaires completed by NCS students in the period from 2015/16 to 2019/20 and noted that each school year less than half of the students considered that the study materials used in the study groups were just right to their learning needs. Around 51% to 57% of the students found that the materials were not at the appropriate level of difficulty for them (i.e. either very/quite difficult or too/quite easy).

4.10 In Audit’s view, NCS students have diverse background and learning needs. For example, some NCS students were born in Hong Kong and some are new arrivals. Therefore, the Chinese language competencies and the learning needs of NCS students may be very different even though they are at the same school levels. Audit considers that EDB needs to take measures to ensure that students are arranged into study groups of appropriate levels to cater for their individual learning needs instead of arranging them according to their school levels. For instance, an assessment can be made to gauge the Chinese language competencies of the students before arranging them into study groups.

Need to improve course instructors' performance and students' performance

4.11 EDB conducts lesson observations to monitor the Student Support Programme. During lesson observations, course instructors' performance and students' performance (Note 17) are rated by EDB staff on a scale of 1 to 4. A higher rating represents a better performance. Verbal advice is provided to the instructors of the centres after the lesson observations. Visit reports are prepared for follow-up and record purposes.

4.12 In the period from 2017/18 to 2018/19, EDB conducted lesson observations on 42 study groups. Audit examination of the visit reports revealed that, of the 42 study groups (see Table 20):

- (a) course instructors' performance was rated "1" in 2 (5%) study groups, "2" in 18 (43%) study groups, and "3" or "4" in 22 (52%) study groups; and
- (b) students' performance was rated "1" in 3 (7%) study groups, "2" in 14 (33%) study groups, and "3" or "4" in 25 (60%) study groups.

Note 17: *Course instructors' performance is assessed mainly based on the suitability of teaching materials, teaching skills, professional knowledge and experience of the instructors. Students' performance is assessed mainly based on confidence of NCS students in using Chinese and the level of adaptation to the local education curriculum of Chinese Language.*

Table 20

**Ratings in lesson observations of the study groups
of the Student Support Programme
(2017/18 to 2018/19)**

School year	No. of study groups									
	Rating on course instructors' performance					Rating on students' performance				
	Rated "1"	Rated "2"	Rated "3"	Rated "4"	Total	Rated "1"	Rated "2"	Rated "3"	Rated "4"	Total
2017/18	1	9	10	—	20	2	8	9	1	20
2018/19	1	9	11	1	22	1	6	13	2	22
Overall	2 (5%)	18 (43%)	21 (50%)	1 (2%)	42 (100%)	3 (7%)	14 (33%)	22 (53%)	3 (7%)	42 (100%)

Source: Audit analysis of EDB records

4.13 Upon enquiry, EDB informed Audit in March 2021 that the scale of 1 to 4 denoted “poor”, “satisfactory”, “good” and “excellent” performance respectively as commonly adopted. Audit noted that there was room for improvement in course instructors’ performance/students’ performance in some study groups even though they were rated “satisfactory”. For instance, in 11 of the 18 study groups in which the course instructors’ performance was rated “satisfactory”, EDB had given comments on the course instructors’ performance which indicated deficiencies in learning content, teaching materials, classroom instructions or classroom management. Audit considers that EDB needs to take measures to improve the course instructors’ performance and students’ performance to enhance the effectiveness of the Student Support Programme.

Audit recommendations

4.14 Audit has *recommended* that the Secretary for Education should take measures to:

- (a) promote the Student Support Programme to NCS students and schools with a view to encouraging schools to nominate NCS students to enrol in the Programme;

Other support measures

- (b) encourage and facilitate students to attend lessons, and improve the drop-out rate and the attendance rate of the Student Support Programme;
- (c) ensure that students enrolled in the Student Support Programme are arranged into study groups of appropriate levels to cater for their individual learning needs, instead of arranging them according to their school levels; and
- (d) improve the course instructors' performance and students' performance to enhance the effectiveness of the Student Support Programme.

Response from the Government

4.15 The Secretary for Education agrees with the audit recommendations.

Summer Bridging Programme

4.16 Since 2004, to facilitate NCS Primary 1 entrants' adaptation to classroom setting with the use of the Chinese language, primary schools have been invited to run the Summer Bridging Programme during the summer vacation before NCS students start their Primary 1. Since 2007, to consolidate NCS students' learning of the Chinese language at different key stages, the Programme has been extended to cover NCS students progressing to Primary 2 to 4. Starting from 2013, the Programme has been enhanced to allow the parents of NCS students to accompany their children in participating in the Programme with a view to bringing about more effective learning of the Chinese language with parental support and home-school collaboration.

Need to improve participation rate

4.17 Every year, EDB issues Circular Memorandum in April/May to public sector primary schools and primary schools offering local curriculum under DSS to invite them to apply for funding to operate the Summer Bridging Programme. Subvention is disbursed to schools according to the number of classes approved by EDB, taking into account the total number of participants and groupings. The subvention in 2019 was \$23,140 per class. In 2019, EDB approved funding of

\$2 million for 29 schools to operate the Programme. The total number of classes operated was 86.

4.18 Audit examined the number of participants of the Summer Bridging Programme held in the period from 2013 to 2019 (Note 18) and noted that although the number of NCS students eligible to participate in the Programme increased by 1,226 (22%) from 5,602 in 2013 to 6,828 in 2019, the number of NCS students participating in the Programme decreased by 590 (34%) from 1,730 in 2013 to 1,140 in 2019. The participation rate (i.e. number of NCS students participating in the Programme as a percentage of the number of eligible students) was low and decreased continuously from 31% in 2013 to 17% in 2019 (see Table 21). As mentioned in paragraph 4.4(a), starting from 2014/15, EDB has put in place a series of enhanced support measures for NCS students covering funding support, professional development for teachers, SBSS, etc. Upon enquiry, EDB informed Audit in March 2021 that there were competition and time clash with other student programmes and activities conducted in the summer, hence students might have difficulties in attending the lessons. These might have accounted for the decrease in the number and percentage of NCS students participating in the Summer Bridging Programme. Moreover, EDB promoted the Programme in May and June by placing promotion leaflets in Support Service Centres for Ethnic Minorities of the Home Affairs Department, broadcasting radio announcements and placing advertisements in the media.

Note 18: *According to EDB, the number of participants of the Summer Bridging Programme in 2020 was affected by the outbreak of COVID-19 in 2020.*

Table 21

**Number of NCS students participating in the Summer Bridging Programme
(2013 to 2019)**

Year	No. of NCS students		Participation rate (c) = (b) ÷ (a) × 100%
	Eligible to participate (a)	Participated (b)	
2013	5,602	1,730	31 %
2014	5,973	1,750	29 %
2015	6,227	1,650	26 %
2016	6,427	1,590	25 %
2017	6,609	1,390	21 %
2018	6,688	1,260	19 %
2019	6,828	1,140	17 %

Source: *Audit analysis of EDB records*

4.19 While recognising EDB's efforts in enhancing various support measures for NCS students, Audit considers that EDB needs to step up efforts in encouraging schools to nominate NCS students to enrol in the Summer Bridging Programme.

***Some schools did not include all the required information of
Summer Bridging Programme in their school reports***

4.20 To enhance accountability and transparency, EDB requires schools to publish a school report annually for public reference on the schools' achievements and areas for improvement. EDB also requires participating schools to review the Summer Bridging Programme annually and include the following information in their school reports:

- (a) the findings of the review;
- (b) the implementation details of the Programme;

- (c) the number of participating NCS students and parents of NCS students; and
- (d) the effectiveness of the Programme in improving NCS students' learning of the Chinese language.

EDB conducts random checking and offers verbal advice to participating schools that do not have all the necessary information included in their reports for follow-up actions.

4.21 Audit examined 50 school reports of the schools participating in the Summer Bridging Programme in the period from 2017 to 2020 and noted that:

- (a) 12 (24%) school reports included all the information of the Programme as required;
- (b) 18 (36%) school reports omitted some of the required information; and
- (c) 20 (40%) school reports omitted all the required information.

4.22 Audit considers that EDB needs to step up measures to ensure that the participating schools of the Summer Bridging Programme include in their annual school reports all the required information of the Programme with a view to enhancing accountability and the transparency of the schools' operation of the Programme.

Audit recommendations

4.23 Audit has *recommended* that the Secretary for Education should:

- (a) **step up efforts in encouraging schools to nominate NCS students to enrol in the Summer Bridging Programme; and**
- (b) **step up measures to ensure that the participating schools of the Summer Bridging Programme include in their annual school reports all the required information of the Programme with a view to enhancing**

accountability and the transparency of the schools' operation of the Programme.

Response from the Government

4.24 The Secretary for Education agrees with the audit recommendations.

Life planning education services

4.25 EDB commissioned an NGO to implement a pilot project in the period from 2015/16 to 2017/18 to provide life planning education services to NCS students with a view to preparing them for further studies and career pursuits. Starting from 2018/19, EDB has regularised the services, which comprise the following:

- (a) provision of on-site support services on life planning education to secondary schools with more intake of NCS students. On-site support services include arranging training and career exploration activities such as career visits and job shadowing for NCS students, as well as conducting training for teachers and parents of NCS students; and
- (b) organising one-off career exploration activities for NCS students in secondary schools not participating in (a), including those with less intake of NCS students.

In the period from 2015/16 to 2019/20, the amount of annual expenditure incurred on life planning education services ranged from \$0.7 million to \$2.4 million.

Need to endeavour to fulfil the needs of schools and NCS students for life planning education services

4.26 After the life planning education services were regularised in 2018/19, EDB has conducted quotation exercises annually to select the service provider. Audit examined the invitations of quotation for the period from 2018/19 to 2020/21 and noted that:

- (a) every year in the three-year period, invitations were sent to the same five service providers; and
- (b) the responses were lukewarm. 4 (80%) of the 5 service providers did not respond in 2018/19 and 2020/21 and 3 (60%) did not respond in 2019/20.

4.27 Audit noted that the demand from schools for on-site support services on life planning education was high. Many schools and NCS students did not succeed in their applications for the services due to the limited capacity of the service provider. In the period from 2018/19 to 2020/21 (see Table 22):

- (a) the numbers of schools and NCS students applying for the services increased by 19 (112%) from 17 to 36 and by 499 (157%) from 318 to 817 respectively;
- (b) the numbers of schools and NCS students with unsuccessful applications each year ranged from 7 to 20 and 121 to 497 respectively; and
- (c) the percentages of schools and NCS students with unsuccessful applications each year ranged from 30% to 56% and 35% to 61% respectively.

Table 22

Numbers of schools and NCS students provided with on-site support services on life planning education (2018/19 to 2020/21)

School year	Applications received		Unsuccessful applications		Services provided	
	No. of schools	No. of NCS students	No. of schools	No. of NCS students	No. of schools	No. of NCS students
2018/19 (Note)	17	318	9 (53%)	121 (38%)	8 (47%)	197 (62%)
2019/20	23	502	7 (30%)	174 (35%)	16 (70%)	328 (65%)
2020/21	36	817	20 (56%)	497 (61%)	16 (44%)	320 (39%)

Source: Audit analysis of EDB records

Note: The on-site support services commenced in the second term.

4.28 Audit considers that EDB needs to ascertain the reasons for the lukewarm response from the service providers for the life planning education services and explore whether there are other suitable service providers who may be interested in providing the services. EDB also needs to endeavour to increase the capacity in the provision of on-site support services on life planning education with a view to meeting the needs of schools and NCS students for the services.

Audit recommendations

4.29 Audit has *recommended* that the Secretary for Education should:

- (a) ascertain the reasons for the lukewarm response from the service providers for the life planning education services and explore whether there are other suitable service providers who may be interested in providing the services; and

- (b) **endeavour to increase the capacity in the provision of on-site support services on life planning education with a view to meeting the needs of schools and NCS students for the services.**

Response from the Government

4.30 The Secretary for Education agrees with the audit recommendations.

Information to facilitate school choices

4.31 All eligible children, irrespective of their races or places of birth, enjoy equal opportunities in admission to schools. To help parents of NCS students understand the local education system in Hong Kong and facilitate them in making informed school choices, EDB has taken the following measures:

- (a) translating the Parent Information Package and leaflets on kindergarten education, school places allocation systems and support for NCS students into languages of diverse races (Note 19);
- (b) organising dedicated briefing sessions on admission to kindergartens and the allocation systems of Primary One and Secondary One school places;
- (c) providing a dedicated website and a dedicated hotline for NCS students and their parents to obtain information about local schools; and
- (d) arranging interviews with individual parents for referring their non-Chinese speaking children to special schools. Information on the referral and placement mechanism for special schools is introduced in English during the interviews.

Note 19: *The languages of diverse races include Bahasa Indonesia, Hindi, Nepali, Punjabi (Indian), Tagalog, Thai and Urdu.*

Need to step up efforts to enhance transparency of kindergartens' admission arrangement

4.32 EDB has issued circulars to kindergartens joining KG Scheme, stating that their school-based admission mechanism must be fair, just and open, and in compliance with the existing anti-discrimination legislation (e.g. Race Discrimination Ordinance — Cap. 602). According to EDB's guidelines on admission arrangements:

- (a) kindergartens must provide application forms and relevant admission information (e.g. admission criteria and interview arrangements) both in Chinese and English; and
- (b) kindergartens should arrange interpretation and/or translation services for applicants where necessary, or allow non-Chinese speaking children and their parents to be accompanied by a Chinese speaking relative/friend during the interview to facilitate communication.

4.33 In December 2020, EDB provided a one-off website enhancement grant to all kindergartens joining KG Scheme for them to enhance their school websites by 31 December 2021 to provide basic school information in both Chinese and English (e.g. an introduction to the school and information on admission arrangements, and a link to the school information on EDB's webpage "Profile of Kindergartens and Kindergarten-cum-Child Care Centres").

4.34 In January 2021, Audit examined the websites of 105 kindergartens joining KG Scheme in three districts with a significant number of NCS students. They were located in Hong Kong Island, Kowloon and the New Territories respectively (i.e. 12 in Wanchai, 24 in Yau Tsim Mong and 69 in Yuen Long) (Note 20). Audit found that:

Note 20: *There were a total of 109 kindergartens joining KG Scheme in the three districts. Admission information was not available on the websites of 4 kindergartens because the websites were under maintenance or the related admission information had been removed from the websites subsequent to the close of admission application.*

- (a) 2 (2%) kindergartens did not provide the admission information in English; and
- (b) 47 (45%) kindergartens did not indicate on their webpages that they would provide interpretation and/or translation services, or allow non-Chinese speaking children and their parents to be accompanied by a Chinese speaking relative/friend during the interview to facilitate communication.

4.35 Upon enquiry, EDB informed Audit in March 2021 that:

- (a) EDB had followed up with the 2 kindergartens in paragraph 4.34(a) and requested them to rectify the situation; and
- (b) EDB would conduct inspection of kindergartens' websites to ensure that they are in compliance with the requirements.

Audit considers that EDB needs to closely monitor the websites of kindergartens joining KG Scheme to ensure their compliance with EDB's guidelines on admission arrangements. EDB also needs to encourage kindergartens to indicate on their webpages that interpretation and/or translation services may be arranged, and non-Chinese speaking children and their parents are allowed to be accompanied by a Chinese speaking relative/friend during the interview.

Need to improve the disclosure of admission criteria

4.36 Placement of students to Secondary One school places follows the procedures stipulated in the Secondary School Places Allocation System, regardless of whether they are NCS students or not. The Secondary School Places Allocation System has two stages. In the first stage (i.e. the Discretionary Places stage), each student may apply to not more than two secondary schools (Note 21). Schools may admit suitable students according to their educational philosophy and characteristics.

Note 21: *Students who are unsuccessful in obtaining a place under the Discretionary Places stage will be allocated to a Secondary One place under the Central Allocation stage based on the student's allocation band, parental choice of schools and the computer-generated random number.*

Other support measures

EDB requires secondary schools to make public prior to admission the admission criteria and weighting of each criterion. Audit noted that:

- (a) EDB did not require secondary schools to disclose the admission criteria and weighting of each criterion in both Chinese and English; and
- (b) of 52 secondary schools in three districts (i.e. 14 in Wanchai, 14 in Yau Tsim Mong and 24 in Yuen Long) whose websites were examined by Audit in January 2021:
 - (i) 15 (29%) schools had made public the admission criteria and weighting of each criterion only in Chinese but not in English; and
 - (ii) 4 (8%) schools, while making public the admission criteria and weighting of each criterion in both Chinese and English, had the icon directing to the English webpage shown in Chinese only.

4.37 Audit considers that EDB needs to improve the disclosure of the admission criteria and weighting of each criterion for the Discretionary Places stage of the Secondary School Places Allocation System, in order to help parents of NCS students understand such information to facilitate school choices.

Audit recommendations

4.38 Audit has *recommended* that the Secretary for Education should:

- (a) **closely monitor the websites of kindergartens joining KG Scheme to ensure their compliance with EDB's guidelines on admission arrangements;**
- (b) **encourage kindergartens to indicate on their webpages that interpretation and/or translation services may be arranged, and non-Chinese speaking children and their parents are allowed to be accompanied by a Chinese speaking relative/friend during the interview; and**

- (c) encourage secondary schools to make public the admission criteria and weighting of each criterion for the Discretionary Places stage of the Secondary School Places Allocation System in both Chinese and English, in order to help parents of NCS students understand such information to facilitate school choices.

Response from the Government

4.39 The Secretary for Education agrees with the audit recommendations.

Enhancement of support measures

4.40 Starting from 2014/15, EDB has enhanced the support measures for NCS students, including:

- (a) the implementation of Learning Framework (see Note 5 to para. 1.5(a)) in primary and secondary schools;
- (b) NCS Grant to schools for providing intensive learning of Chinese for NCS students and creating an inclusive environment in schools (see PART 2); and
- (c) in-service teachers' professional development and SBSS for supporting NCS students (see PART 3).

Need to monitor the implementation of support measures

4.41 In June and July 2017, in the papers submitted to the Panel on Education of the Legislative Council (LegCo) reporting the progress on the implementation of support measures for NCS students in learning Chinese, EDB stated that:

- (a) data had been collected and analysed since 2014/15 for the purpose of evaluating the effectiveness of the support measures (including the Learning Framework);

Other support measures

- (b) it would evaluate the effectiveness of the support measures to ensure the quality of these measures and refine individual measures as appropriate; and
- (c) it would review the Learning Framework as appropriate at an interval of three years upon completion of each Key Stage (e.g. Primary 1 to 3).

4.42 In November 2018, EDB informed LegCo that:

- (a) the support measures needed time to take root and create a sustainable impact on NCS students. EDB would have to collect more data for in-depth analysis; and
- (b) it was collating data and information collected and would announce the findings of the review of the Learning Framework after discussing with the Curriculum Development Council (Note 22).

4.43 Upon enquiry, EDB informed Audit in March 2021 that:

- (a) it had been collecting information to monitor the implementation of the support measures and making refinements in an ongoing manner. The review of Learning Framework had been completed. In January 2019, the revised Learning Framework was uploaded to EDB's website for teachers' reference and use. In parallel, the relevant teaching resources had been updated accordingly. EDB would continue to collect information to evaluate the effectiveness of the support measures and make refinements as necessary;
- (b) all along, EDB closely monitored the implementation of the support measures for NCS students, assessed the progress, maintained communication with schools and stakeholders at hand, explored further room for continued enhancement, and informed the public of the

Note 22: *The Curriculum Development Council is a free-standing advisory body appointed by the Chief Executive of the Hong Kong Special Administrative Region to give advice to the Government on matters relating to curriculum development for the local school system.*

implementation of the policies in a timely manner through multifarious means; and

- (c) EDB reported the updated development to various advisory bodies/authorities to gauge the views of the sector and share evaluation findings. In addition, EDB reported on the issue to LegCo from time to time, and briefed Members on and elucidated the policies as appropriate. EDB also responded to observations raised and followed up recommendations as and when appropriate.

Audit considers that EDB needs to take on board the observations and recommendations of this Audit Report, and continue to monitor the implementation of the support measures for NCS students and make refinements as necessary.

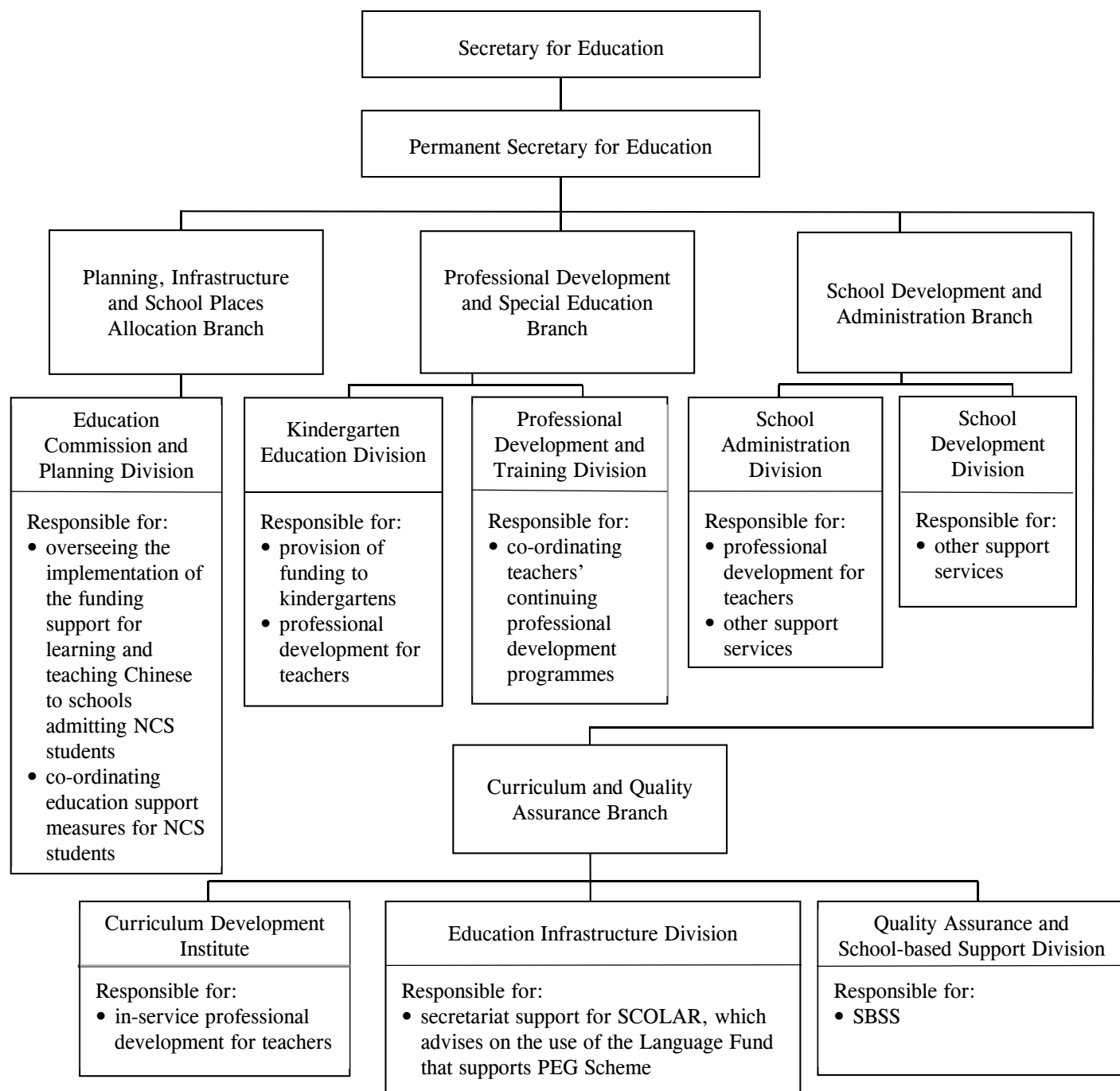
Audit recommendation

4.44 **Audit has *recommended* that the Secretary for Education should take on board the observations and recommendations of this Audit Report, and continue to monitor the implementation of the support measures for NCS students and make refinements as necessary.**

Response from the Government

4.45 The Secretary for Education agrees with the audit recommendation.

Education Bureau: Organisation chart (extract)
(31 December 2020)



Source: EDB records

Remarks: This chart shows the various teams of EDB responsible for the provision of education support measures to NCS students.

Acronyms and abbreviations

Audit	Audit Commission
DSS	Direct Subsidy Scheme
EDB	Education Bureau
KG Scheme	Kindergarten education scheme
Learning Framework	Chinese Language Curriculum Second Language Learning Framework
LegCo	Legislative Council
NCS Grant	Enhanced additional funding support for non-Chinese speaking students
NCS students	Non-Chinese speaking students
NGOs	Non-governmental organisations
PEG Scheme	Professional Enhancement Grant Scheme for Chinese Language Teachers (Teaching Chinese as a Second Language)
SBSS	School-based support services
SCOLAR	Standing Committee on Language Education and Research
USP	University-School Support Programme

CHAPTER 3

**Environment Bureau
Agriculture, Fisheries and
Conservation Department**

**Control of trade in endangered species
by the Agriculture, Fisheries and
Conservation Department**

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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CONTROL OF TRADE IN ENDANGERED SPECIES BY THE AGRICULTURE, FISHERIES AND CONSERVATION DEPARTMENT

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CONTROL OF TRADE IN ENDANGERED SPECIES BY THE AGRICULTURE, FISHERIES AND CONSERVATION DEPARTMENT

Executive Summary

1. Due to high levels of exploitation of some animal and plant species, the trade in them may deplete their populations and bring some species close to extinction. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments with the aim to ensure that international trade in specimens of wild animals and plants does not threaten their survival. It regulates international trade of species of animals and plants through a system of permits and certificates in which the required permits/certificates must accompany the species in question when leaving and entering a country. As of December 2020, CITES regulated 38,713 species. They are classified into three Appendices according to the degree of threat posed by international trade. Appendix I includes species that are threatened with extinction, Appendix II includes species that are not presently threatened with extinction but may become so unless trade is controlled, and Appendix III includes species identified by any party to CITES as requiring cooperation in controlling their trade.

2. In Hong Kong, the Government protects endangered species of animals and plants set out in the three Appendices to CITES through the implementation of the Protection of Endangered Species of Animals and Plants Ordinance (PESAPO — Cap. 586). Species classified into Appendices I, II and III to CITES are specified in Schedule 1 to PESAPO (hereinafter referred to as scheduled species). The Agriculture, Fisheries and Conservation Department (AFCD) is responsible for administering and enforcing PESAPO, with advice given by the Endangered Species Advisory Committee established under the Ordinance. The control of trade in scheduled species is mainly carried out by the Conservation Branch of AFCD, supported by its Endangered Species Protection Division (ESPD). The Audit Commission (Audit) has recently conducted a review to examine the control of trade in scheduled species by AFCD.

Executive Summary

Licensing and inspections

3. According to PESAPO, the import, introduction from the sea, export, re-export or possession of specimens of scheduled species may require a licence issued in advance by AFCD. Each licence is valid for one shipment at one time and in one lot or for one keeping premises. AFCD uses a computer system (i.e. the Endangered Species Licensing and Enforcement System — ESLES) to facilitate the issue of licences/certificates and related enforcement work (paras. 1.8 and 2.2).

4. ***Import and export control.*** All import, introduction from the sea, export and re-export shipments of scheduled species, irrespective of whether a licence is required, must be inspected by AFCD upon landing in Hong Kong or prior to export. The importer/exporter should make an appointment with AFCD at least two working days in advance for such an inspection (i.e. consignment inspections). AFCD's Import and Export Division and ESPD are responsible for conducting consignment inspections (paras. 1.11(a) and 2.3). Audit noted the following issues:

(a) ***Room for improvement in conducting consignment inspections.*** Audit's analysis of ESLES records of 121,004 consignment inspections conducted from 2016 to 2020 (comprising 17,765 inspections conducted by ESPD and 103,239 inspections conducted by the Import and Export Division) and examination of selected inspection reports (para. 2.6) revealed the following:

(i) ***Inspection ratios not recorded in ESLES.*** The inspection ratio (i.e. the proportion of consignment having been inspected) provides useful management information for assessing the adequacy of the consignment inspections. However, inspection ratios were not recorded in ESLES for 103,691 (86% of 121,004) inspections (paras. 2.4(b) and 2.6(a));

(ii) ***Inadequate guidelines on sampling.*** The operation manual of the Import and Export Division has stipulated the minimum inspection ratio to be adopted in a consignment inspection according to the weight or quantity of the specimen. In contrast, no such detailed guidelines were stipulated in ESPD operation manual (para. 2.6(b));

Executive Summary

- (iii) ***Delays in submitting inspection reports.*** According to ESPD operation manual, the inspection officer should submit a written report to his/her supervisor and update the inspection records in ESLES within three working days following the inspection. However, Audit's examination of 25 inspection reports prepared by ESPD inspection officers found that for 9 (36%) reports, the inspection officers did not submit the reports within three working days (paras. 2.4(c) and 2.6(c)); and
 - (iv) ***Inadequate supervisory inspections.*** According to ESPD operation manual, supervisory inspections should be conducted for 5% of the consignment inspections each year. However, Audit found that supervisory inspections were conducted for 0.1% to 1.4% of ESPD's consignment inspections in each year from 2016 to 2020 (para. 2.6(d)); and
 - (b) ***Need to review follow-up actions on expired licences.*** For import licences (ILs), export licences (ELs) and re-export licences (RLs), one of the licence conditions is that, on expiry, any unused licences should be returned to AFCD for cancellation. According to AFCD, one reminder letter would be sent to the licensee for each expired licence. Audit analysis of ESLES records revealed that, of 79,944 ILs, ELs and RLs issued from 2016 to 2020, 13,394 (17%) had expired as at 31 December 2020 but the relevant licensees had not responded to the reminder letters issued by AFCD as at 31 January 2021 (paras. 2.7 to 2.9).
5. ***Possession control.*** According to PESAPO, the possession of a specimen of an Appendix I species or a live specimen of wild origin of an Appendix II species requires a possession licence (PL) issued in advance by AFCD unless it is exempted. One PL is issued in respect of each keeping premises which may keep specimens of more than one scheduled species. According to ESPD operation manual, inspections to the keeping premises of specimens requiring PLs may be conducted upon new application, renewal or variation of PLs (e.g. amending the maximum quantity of a specimen to be held under a PL) (paras. 2.12 and 2.13). Audit noted the following issues:
- (a) ***Need to follow laid-down procedures in processing PL applications.*** According to ESPD operation manual, in inspecting the keeping premises of a new PL applicant, the inspection officer should check if the keeping

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facilities are suitable and have sufficient space to accommodate the intended licensed quantity of the specimens, in particular if live animals are involved. The inspection report should include photographs and measurement of the keeping facilities. Upon application of PL renewal, the applicant is required to submit along with the application form a photocopy of the previous PL and records of every transaction of the licensed species on a prescribed form. Audit selected 19 PL applications of 10 licensees for examination and found that:

- (i) in four new applications for possession of live specimens (e.g. humphead wrasse and birds), there was no record of measurement of the keeping facilities; and
 - (ii) in one renewal application, AFCD approved the application despite that not every transaction was recorded on the prescribed form (paras. 2.14 and 2.15); and
- (b) ***Need to continue efforts in developing unique markings on specimens of scheduled species.*** From time to time, there are concerns from the public and some Members of the Legislative Council on the identification of scheduled species and possible laundering. Currently, unique markings (i.e. tagging or labelling techniques) are adopted for a limited number of species, including microchips for captive-bred Asian arowana, holograms for elephant ivory and number tags for crocodilian skin. According to AFCD, a facial-recognition programme for identifying individual humphead wrasse was being pursued by a local university. Apart from humphead wrasse, there is merit for AFCD to explore the need and feasibility of labelling or marking individual specimens of other commonly possessed scheduled species in Hong Kong, such as reptiles and amphibians, given that a number of such species have recently been included in CITES Appendix I (paras. 2.18 to 2.21).

6. ***Shop inspections.*** Shop inspections are conducted at retail outlets of various nature, such as wet market, aquarium, pet shop, flower shop, craft shop, and Chinese medicine shop. There are two types of shop inspections, namely routine shop inspections and inspection-cum-education visits. Routine shop inspections mainly aim at detecting possible violations of PESAPO. Inspection-cum-education visits serve an additional purpose to educate the shop owners regarding the provisions of PESAPO, particularly changes to the legislation (para. 2.24). Audit noted the following issues:

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- (a) ***Need to keep under review target number of shop inspections.*** According to ESPD operation manual, shop inspections are conducted on a risk-based approach, with a target number of about 1,500 inspections annually. Audit analysed the number of shop inspections conducted from 2016 to 2020 and found that:
- (i) from 2016 to 2019, the number of shop inspections each year ranged from 1,885 to 3,102 (2,592 on average), i.e. exceeding the annual target of 1,500 inspections by 26% to 107% (73% on average). The number of shop inspections decreased to 1,502 in 2020 due to the COVID-19 epidemic; and
 - (ii) there was a shift in the inspection focus from routine shop inspections to inspection-cum-education visits, as reflected by the decreasing percentage of routine shop inspections from 79% in 2016 to 25% in 2020 and the increasing percentage of inspection-cum-education visits from 21% to 75% in the same period (paras. 2.25 and 2.26);
- (b) ***Need to ensure that shop list is up-to-date.*** According to AFCD, a shop list is maintained in ESLES to facilitate the conduct of shop inspections. The list should be updated when any premises is found to have commenced business or have ceased operation during shop inspections or licence applications. Audit selected some 150 shop inspection reports in 2017 for examination and found that 24 shops inspected were no longer in operation. However, 16 (67%) of the 24 shops were not yet removed from the shop list in ESLES as of December 2020 (para. 2.27); and
- (c) ***Room for improvement in preparing and submitting inspection reports.*** According to ESPD operation manual, an inspection officer is required to use an inspection report template to record his/her findings (including the details of any irregularity found) during an inspection. On or before the next working day of the inspection, the inspection officer should submit to the supervisor the inspection report for premises with irregularities detected and requiring follow-up actions. Audit analysed ESLES records on the shop inspections conducted from 2016 to 2020 and found that:

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- (i) verbal warnings were given to the relevant shopkeepers in 25 shop inspections. However, in 4 (16%) of the 25 inspections, the inspection officers incorrectly indicated in the inspection reports that no irregularity was found; and
- (ii) in 54 (58%) of 93 inspections reported with irregularities, inspection reports were not submitted on or before the next working day of the inspection. The inspection reports were submitted 2 to 11 working days (4 working days on average) after the inspections (paras. 2.30 and 2.31).

Investigation and prosecution

7. AFCD conducts investigation on alleged cases in contravention of PESAPO and takes prosecution actions as appropriate. If prosecution is not instigated or no person is convicted after prosecution, AFCD may apply for court orders for forfeiture of seized specimens to the Government and will take no further action for cases without specimens seized (para. 3.2).

8. ***Monitoring of cases under investigation and prosecution.*** According to ESLES records, 6,126 alleged cases in contravention of PESAPO were opened for investigation from 2010 to 2020 (up to November). Audit noted the following issues:

- (a) ***Need to enhance management information on cases under investigation and prosecution.*** As at 30 November 2020, 327 of the 6,126 cases were remarked as under investigation and prosecution. For these 327 cases, no information was readily available from ESLES showing the breakdown into number of cases under investigation and that under prosecution. Audit selected 20 cases for further examination and found that:
 - (i) in 3 cases, AFCD could not provide the case files for Audit examination. AFCD informed Audit that the investigation of these cases had been completed and no prosecution was instigated;
 - (ii) in 15 cases, investigation and/or prosecution had been completed. However, AFCD was yet to take the required follow-up actions

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(e.g. warning letters not yet issued and/or court order for forfeiture of seized specimens not yet applied for); and

- (iii) in 2 cases, AFCD had completed investigation and/or prosecution and no further action was required. However, ESLES records had not been updated (paras. 3.3 and 3.4); and

- (b) ***Need to closely monitor cases pending application for court orders for forfeiture of specimens to the Government.*** As at 30 November 2020, 601 of the 6,126 cases were remarked as pending application for court orders for forfeiture of the seized specimens. For 566 cases, the time elapsed from the date of offence was more than 1 year. Audit selected 20 cases of these 566 cases for further checking in ESLES and noted that in 9 cases, the specimens had already been disposed of (paras. 3.6 and 3.7).

9. ***Need to continue efforts in exploring technology for quick identification of scheduled species.*** According to AFCD, in view of the rapid cargo and passenger movement in Hong Kong, it often had to determine the identity of the specimens suspected to be of a scheduled species for prompt seizure under PESAPO within half a day. A deoxyribonucleic acid (DNA) test technology, namely real-time polymerase chain reaction has been developed for species identification for a few specific scheduled species where identification based on morphological characteristics (i.e. the form, shape and structure) of the specimens is not possible. If the DNA of a specimen matches with that of the specific scheduled species, the specimen will be seized for further investigation. According to AFCD, it had been working with experts in the field to apply the real-time polymerase chain reaction technology to some other species included in CITES Appendices (paras. 3.12 to 3.15).

10. ***Need to keep under review the number of intelligence reports received.*** From time to time, AFCD receives intelligence reports from various sources on alleged cases in contravention of PESAPO. For the period 2011 to 2020, AFCD received a total of 1,047 intelligence reports. Audit noted that:

- (a) the number of intelligence reports received increased from 67 in 2011 to 183 in 2017, and then decreased to 104 in 2020; and

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- (b) the rate of successful seizure (measured as the number of seizures as a percentage of the number of intelligence reports received) ranged from 6% to 36% from 2011 to 2020.

In the period 2016 to 2020, 13% to 30% of investigation cases were initiated based on intelligence reports. The decreasing number of intelligence reports received in recent years warrants AFCD's attention (paras. 3.18 to 3.20).

11. *Need to consider conducting a review on the reward scheme.* To encourage the public to provide information on illegal import, export and possession of scheduled species, AFCD has set up a reward scheme since 1999. An individual who would like to provide information in respect of scheduled species could register with AFCD as an informer (para. 1.14). Audit noted that:

- (a) from 2011 to 2020, 16 to 54 (averaging 29) intelligence reports were received from registered informers each year, accounting for 20% to 40% of all intelligence reports received; and
- (b) the level of reward for cases leading to conviction was set in 1999 and had not been revised since then. For cases leading to successful seizure, the reward was based on the estimated market value of seized specimens. Audit examined the list of scheduled species commonly traded in the market maintained by AFCD and noted that the last revision to their estimated market values was made in 2002 (para. 3.22).

Other related issues

12. *Need to review record keeping requirements for specimens held and ready for disposal.* Specimens of scheduled species seized during enforcement of PESAPO are kept under AFCD's custody. According to ESPD operation manual:

- (a) for live specimens, the responsible officer should keep a list of specimens held and keep in view the situation until the specimens are forfeited to the Government and prepare a list of specimens ready for disposal monthly, and disposal exercise should be arranged every two months; and

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- (b) for dead specimens, the responsible officer should prepare a summary on the quantities and types of specimens available for dumping, and dumping exercise should be conducted every two months.

Audit noted that no separate list of live specimens ready for disposal was prepared, and disposal/dumping exercises were not regularly conducted for live/dead specimens (paras. 4.2, 4.4 and 4.5).

13. ***Need to maintain proper records on inspections of live specimens held and review stocktaking arrangements.*** Proper care shall be taken in handling specimens of scheduled species to ensure their safe custody. According to ESPD operation manual:

- (a) for live specimens, the responsible staff should arrange inspections of the animals and plants held in the care centres as well as the holding facilities whenever possible to ensure that proper care is provided; and
- (b) for dead specimens, an officer, independent of any procedures of handling seizures, should be appointed to conduct an annual stocktaking of the seized specimens. Results of the stocktaking should be reported to senior staff.

Regarding live specimens, Audit noted that proper records had not been maintained for the inspections to most care centres. Regarding dead specimens, Audit noted that the last stocktaking exercise was conducted in 2013. According to AFCD, the annual stocktaking was suspended due to manpower deployment (paras. 4.6 and 4.7).

14. ***Room for improvement in the placement scheme of pet animals of scheduled species.*** In June 2011, AFCD commenced a placement scheme of pet animals of scheduled species with a non-governmental organisation (NGO). In April 2014, another NGO joined the scheme. Under the scheme, the NGOs are allowed to rehome pet animals of certain scheduled species (i.e. Appendix II species that are already available in the pet market and of comparatively lower conservation value) donated by AFCD to suitable private individuals. According to AFCD, it would monitor the scheme and evaluate its effectiveness, and the number and species of animals donated to the two NGOs under the scheme would be reported to the Endangered Species Advisory Committee regularly. However, Audit noted that AFCD had not: (a) conducted regular visits to the NGOs; (b) reported to the Committee the number and species of live animals donated to the two NGOs since

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January 2015; and (c) conducted any overall evaluation on the scheme (paras. 4.12 to 4.14).

Audit recommendations

15. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:**

Licensing and inspections

- (a) **regarding the conduct of consignment inspections:**
 - (i) **ensure that inspection ratios are recorded in ESLES (para. 2.10(a)(i));**
 - (ii) **lay down detailed guidelines on inspection sampling in ESPD operation manual (para. 2.10(a)(ii));**
 - (iii) **review and update as appropriate the time target for submission of inspection reports and ensure compliance (para. 2.10(a)(iii)); and**
 - (iv) **ensure that adequate supervisory inspections are conducted (para. 2.10(a)(iv));**
- (b) **review the objectives and effectiveness of the follow-up actions on expired ILs, ELs and RLs (para. 2.10(b));**
- (c) **ensure that the laid-down procedures are followed in processing PL applications (para. 2.22(a));**
- (d) **continue the efforts to pursue the facial-recognition programme for humphead wrasse and explore the need and feasibility of labelling or marking individual specimens of other commonly possessed scheduled species in Hong Kong (para. 2.22(c) and (d));**

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- (e) **keep under review the target number of routine shop inspections and inspection-cum-education visits, and consider setting separate targets for the two types of inspections (para. 2.33(a));**
- (f) **ensure that the shop list for shop inspection is up-to-date (para. 2.33(b));**
- (g) **remind the inspection officers to accurately record irregularities identified during shop inspections and timely submit inspection reports (para. 2.33(e));**

Investigation and prosecution

- (h) **review the status of all cases remarked as under investigation and prosecution in ESLES and take follow-up actions promptly (para. 3.9(a));**
- (i) **ensure that all case files for cases under investigation and prosecution are kept properly, and consider enhancing ESLES to record cases under investigation and those under prosecution separately (para. 3.9(b) and (c));**
- (j) **review all cases remarked as pending application for court orders in ESLES and take prompt actions to apply for the orders as appropriate (para. 3.9(d));**
- (k) **consider setting a timeframe for applying for court orders for forfeiture of seized specimens to the Government in future (para. 3.9(e));**
- (l) **ensure that case records in ESLES are properly updated (para. 3.9(f));**
- (m) **continue the efforts in exploring technology for quick identification of scheduled species (para. 3.16(a));**
- (n) **keep under review the number of intelligence reports received and explore measures to encourage more intelligence reports (para. 3.24(a));**

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- (o) **consider conducting a review on the reward scheme to evaluate its effectiveness and identify improvement measures (para. 3.24(b));**

Other related issues

- (p) **review AFCD's record keeping requirements for specimens held and ready for disposal to assess whether the current practice effectively meets the requirements and update ESPD operation manual if necessary (para. 4.15(a));**
- (q) **maintain proper records on inspections to care centres (para. 4.15(b));**
- (r) **review whether AFCD's current stocktaking arrangements effectively meet the objective of ensuring proper custody of specimens and update as appropriate the relevant requirements in ESPD operation manual (para. 4.15(c)); and**
- (s) **for the placement scheme of pet animals of scheduled species:**
 - (i) **consider conducting regular visits to the NGOs under the scheme (para. 4.15(e)(i));**
 - (ii) **regularly report more information about the scheme to the Endangered Species Advisory Committee (para. 4.15(e)(ii)); and**
 - (iii) **consider conducting an overall evaluation on the effectiveness and operation of the scheme (para. 4.15(e)(iii)).**

Response from the Government

16. The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 International wildlife trade is diverse, ranging from live animals and plants to a vast array of wildlife products derived from them (e.g. food products, exotic leather goods, timber, tourist souvenirs and medicines). Due to high levels of exploitation of some animal and plant species, the trade in them may deplete their populations and bring some species close to extinction. It is therefore important to control the trade in these species to safeguard them from over-exploitations.

1.3 The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments (Note 1) with the aim to ensure that international trade (Note 2) in specimens of wild animals and plants does not threaten their survival. It regulates international trade of species of animals and plants through a system of permits and certificates in which the required permits/certificates must accompany the species in question when leaving and entering a country. Each party to CITES must designate one or more Management Authorities in charge of administering that licensing system (hereinafter referred to as CITES Management Authority).

1.4 Every two to three years, the parties to CITES meet to review the implementation of CITES, including reviewing the list of endangered species to be regulated in accordance with factors such as the conservation status of the concerned species to ensure that the provisions of CITES are up-to-date. As of December 2020, CITES regulated 38,713 species, including 5,945 species of animals and

Note 1: *CITES was entered in force in July 1975 and has been implemented in Hong Kong since 1976. As of December 2020, there were 183 parties to CITES.*

Note 2: *Under CITES, trade means export, re-export, import and introduction from the sea (i.e. transportation into a state of specimens of any species which were taken in the marine environment not under the jurisdiction of any state).*

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32,768 species of plants. They are classified into three Appendices according to the degree of threat posed by international trade as follows:

- (a) **Appendix I.** Appendix I includes species that are threatened with extinction (1,082 species). Commercial trade in specimens of these species is prohibited except under certain circumstances (e.g. scientific research). Examples of Appendix I species are Chinese pangolin and slipper orchid (see Photographs 1(a) and (b));

Photographs 1(a) and (b)

Examples of Appendix I species

(a) Chinese pangolin



(b) Slipper orchid



Source: Agriculture, Fisheries and Conservation Department records

- (b) **Appendix II.** Appendix II includes species that are not presently threatened with extinction but may become so unless trade is controlled (37,420 species). Commercial trade in specimens of these species is allowed under licensing control. Examples of Appendix II species are Chinese three-striped box turtle and orchid (see Photographs 2(a) and (b)); and

Photographs 2(a) and (b)

Examples of Appendix II species

(a) Chinese three-striped box turtle



(b) Orchid



Source: Agriculture, Fisheries and Conservation Department records

- (c) **Appendix III.** Appendix III includes species identified by any party to CITES as requiring cooperation in controlling their trade (211 species). Their trade is subject to permits or certificates of origin. Examples of Appendix III species are Chinese stripe-necked turtle and sea coconut (see Photographs 3(a) and (b)).

Photographs 3(a) and (b)

Examples of Appendix III species

(a) Chinese stripe-necked turtle



(b) Sea coconut



Source: Agriculture, Fisheries and Conservation Department records

Local legislation for control of trade in endangered species

1.5 In Hong Kong, the Government protects endangered species of animals and plants set out in the three Appendices to CITES through the implementation of the Protection of Endangered Species of Animals and Plants Ordinance (PESAPO — Cap. 586) (Note 3). Species classified into Appendices I, II and III to CITES are specified in Schedule 1 to PESAPO (hereinafter referred to as scheduled species).

1.6 According to PESAPO, unless otherwise specified, no person shall import, introduce from the sea, export, re-export or possess a specimen of a scheduled species, whether alive, dead, its parts or derivatives, except under and in accordance with a licence issued under the Ordinance. Any person contravening the requirements of PESAPO commits an offence and is liable on conviction to a maximum fine of \$10 million and to an imprisonment of 10 years (Note 4). The seized specimens will, without further order, also be forfeited to the Government on conviction.

1.7 The Agriculture, Fisheries and Conservation Department (AFCD) is responsible for administering and enforcing PESAPO (Note 5). AFCD is also the designated CITES Management Authority (see para. 1.3) in Hong Kong. Its work includes the licensing control of international trade in scheduled species and curbing of illegal trade in scheduled species in Hong Kong. An advisory committee, namely the Endangered Species Advisory Committee, was established under PESAPO to

Note 3: *CITES was implemented in Hong Kong through the Animals and Plants (Protection of Endangered Species) Ordinance (Cap. 187) from 1976 to December 2006. The Ordinance was repealed in December 2006 and replaced by PESAPO.*

Note 4: *To enhance deterrent effect against illegal wildlife trade, PESAPO was amended in 2018 to increase the penalties. With effect from 1 May 2018, the maximum penalty for any person contravening the licensing requirements of PESAPO has been raised from a fine of \$5 million and an imprisonment of two years to a fine of \$10 million and an imprisonment of 10 years.*

Note 5: *PESAPO is also enforced by the Customs and Excise Department. The Department conducts checks on passengers, cargoes, postal parcels and cross-boundary conveyances at entry/exit points of Hong Kong, to detect and deter different types of smuggling activities including illegal importation and exportation of scheduled species.*

advise the Director of Agriculture, Fisheries and Conservation on the administration of the Ordinance (Note 6).

Licensing control

1.8 ***Licensing requirements.*** According to PESAPO, depending on the type of scheduled species and purposes, the import, introduction from the sea, export, re-export or possession of specimens of scheduled species may require a licence issued in advance by AFCD (Note 7) and/or production of documents issued by the relevant authority (e.g. CITES Management Authority). Each licence is valid for one shipment at one time and in one lot or for one keeping premises. The licensing requirements under PESAPO for trade and possession of scheduled species are generally summarised as follows (Appendix A sets out in more detail the licensing requirements as at 31 December 2020):

Note 6: *The Endangered Species Advisory Committee comprises 13 non-official members appointed by the Chief Executive of the Hong Kong Special Administrative Region and 4 official members. The 4 official members are the Director of Agriculture, Fisheries and Conservation (with the Deputy Director of Agriculture, Fisheries and Conservation as alternate member), the Commissioner of Customs and Excise (with the Assistant Commissioner of Customs and Excise (Boundary and Ports) as alternate member), the Assistant Director of Environmental Protection (Nature Conservation) (with the Senior Administrative Officer (Nature Conservation) as alternate member), and the Assistant Director (Conservation) of AFCD.*

Note 7: *According to AFCD, a licence issued under PESAPO does not exempt the licensee from the provisions of other ordinances. Permits/certificates may be required under other ordinances for the import, introduction from the sea, export, re-export or possession of specimens of scheduled species, such as:*

- (a) the Public Health (Animals and Birds) Ordinance (Cap. 139);*
- (b) the Prevention of Cruelty to Animals Ordinance (Cap. 169);*
- (c) the Rabies Ordinance (Cap. 421);*
- (d) the Wild Animals Protection Ordinance (Cap. 170); and*
- (e) the Plant (Importation and Pest Control) Ordinance (Cap. 207).*

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- (a) ***Import or introduction from the sea.*** Import or introduction from the sea of a specimen of an Appendix I species (Note 8) or a live specimen of wild origin of an Appendix II species requires an import licence (IL) or a licence to introduce from the sea;
- (b) ***Export or re-export.*** Export or re-export of a specimen of any scheduled species requires an export licence (EL) or a re-export licence (RL); and
- (c) ***Possession.*** Possession of a specimen of an Appendix I species or a live specimen of wild origin of an Appendix II species requires a possession licence (PL) issued for the keeping premises.

1.9 ***Exemption from licensing requirements.*** The import, introduction from the sea, export, re-export or possession of a specimen of a scheduled species may be exempt from the licensing requirements as set out in PESAPO and its two exemption orders (Note 9). Examples of exemption include:

- (a) ***Import of pre-Convention specimens.*** A specimen is pre-Convention if it is acquired before the provisions of CITES apply to it (i.e. before the species is first included in the Appendices to CITES). The import of a pre-Convention specimen is exempt from the licensing requirement subject to the production of a pre-Convention certificate issued by a relevant authority and inspection by AFCD officers upon its landing in Hong Kong;
- (b) ***Possession and control of specimens for scientific and educational purposes.*** The specimen is possessed or controlled for the purpose of scientific or educational study or for display in any museum or herbarium;

Note 8: *Commercial trade in an Appendix I species of wild origin is not allowed. AFCD will only issue a licence under certain circumstances in accordance with CITES (e.g. for scientific and educational purposes). Appendix I animals bred in captivity for commercial purposes from CITES registered captive-breeding operations and Appendix I plants artificially propagated for commercial purposes are treated as Appendix II specimens and subject to the same control as Appendix II specimens of wild origin.*

Note 9: *The two exemption orders are the Protection of Endangered Species of Animals and Plants (Exemption for Appendix I Species) Order (Cap. 586A) and the Protection of Endangered Species of Animals and Plants (Exemption for Appendices II and III Species) Order (Cap. 586B).*

- (c) ***Personal or household effects.*** The specimen is part of personal or household effects of a person if the specimen is legally acquired, personally owned or possessed for non-commercial purposes only, and worn or carried by the person, included in his personal baggage or forms part of a household move when the specimen is being imported, exported or re-exported. Exemption from licensing requirements is provided for personal or household effects if certain criteria are met (Note 10); and
- (d) ***Tourist souvenirs.*** The specimen is acquired outside the person's usual place of residence as tourist souvenirs, falls within the definition of personal or household effects (see (c) above), is legally acquired, and is an Appendix II species (other than live animals and plants) or Appendix III species (other than live animals) (Note 11).

1.10 ***Other certificates.*** Apart from licences, AFCD also issues various kinds of certificates for the trade or possession of non-scheduled and/or scheduled species exempt from the licensing requirements under PESAPO, including re-export certificates for non-scheduled species to facilitate customs clearance at the importing countries, and exemption certificates for possession of specimens of scheduled species for scientific and educational purposes.

Inspections

1.11 AFCD conducts inspections to ensure that relevant requirements under PESAPO are complied with and to deter illegal trade, including:

- (a) ***Consignment inspections.*** All import, introduction from the sea, export and re-export shipments of scheduled species, irrespective of whether a licence is required, must be inspected by AFCD upon landing in Hong Kong

Note 10: *No exemption under personal or household effects is provided for import, export or re-export of giant panda, rhino and live animals, and for possession of giant panda and rhino.*

Note 11: *Some countries or regions (e.g. the Mainland, European Union and Indonesia) do not give exemption to tourist souvenir items and some species are subject to quantity limits. Hong Kong does not provide exemption to tourist souvenir items taken to and/or from a country or region that does not implement such exemption.*

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or prior to export. The importer/exporter should make an appointment with AFCD at least two working days in advance for such an inspection; and

- (b) ***Local inspections.*** AFCD conducts inspections to premises that keep or may keep scheduled species, other than those related to consignments, including:
 - (i) shop inspections on retail outlets of various nature, such as wet market, aquarium, pet shop, flower shop, craft shop, and Chinese medicine shop;
 - (ii) inspections to premises relating to new application, renewal or variation of PLs; and
 - (iii) inspections to captive breeding or artificial propagation operations.

Enforcement

1.12 AFCD detects alleged contravention of PESAPO through various sources, including consignment and local inspections, monitoring of on-line trade on the Internet, referral by other government bureaux/departments and reports by the public. Upon detection, AFCD:

- (a) investigates the cases. Investigation work may involve preliminary evidence collection (including identification of species), site inspection and search operation; and
- (b) takes prosecution actions where appropriate.

AFCD also works closely with the Customs and Excise Department (C&ED) (see Note 5 to para. 1.7) in enforcing PESAPO. C&ED will hand over detected cases involving suspected scheduled species to AFCD for identification, follow-up investigation, prosecution and disposal as appropriate.

1.13 ***Inter-departmental Wildlife Crime Task Force.*** To facilitate cooperation and communication for combating wildlife crime under PESAPO, the Government

has since 2016 set up the Inter-departmental Wildlife Crime Task Force. The Task Force is led by AFCD and comprises representatives from the Environment Bureau (Note 12), C&ED and the Hong Kong Police Force. The Task Force:

- (a) develops strategies and protocols for enforcement operations as well as gathers, analyses, exchanges and reviews intelligence for more effective and targeted actions; and
- (b) plans and coordinates major enforcement operations and liaison with other national and international agencies in relation to wildlife crimes.

1.14 ***Reward scheme.*** To encourage the public to provide information on illegal import, export and possession of scheduled species, AFCD has set up a reward scheme since 1999. An individual who would like to provide information in respect of scheduled species could register with AFCD as an informer. Registered informers of the reward scheme who provide reliable information leading to successful seizure of scheduled species or conviction will be rewarded with cash.

Seizure and confiscation of scheduled species

1.15 According to PESAPO:

- (a) ***Seizure of specimens.*** If an authorised officer reasonably suspects that the import, introduction from the sea, export, re-export or possession of a specimen of scheduled species is in contravention of the Ordinance, the officer may seize, remove or detain the specimen;
- (b) ***Forfeiture of specimens to the Government.*** A seized specimen will be forfeited to the Government:
 - (i) without a court order upon conviction of an offence under PESAPO; and

Note 12: *The Environment Bureau is the policy bureau of AFCD with respect to licensing control of international trade and curbing of illegal trade in scheduled species under PESAPO in Hong Kong.*

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- (ii) with a court order if no person is convicted of an offence under PESAPO (the seized specimen may also be returned to the person from whom it was seized or its owner under a court order), or the owner of the seized specimen is unknown or cannot be found; and
- (c) ***Disposal of seized/forfeited specimens.*** Any animal or plant, whether live or dead, seized and forfeited to the Government (see (a) and (b) above) may be sold (Note 13), or disposed of in any other way, by the Director of Agriculture, Fisheries and Conservation in such manner as he thinks fit. He may do so immediately after the seizure if the seized specimen is:
 - (i) any live animal that is impracticable for any reason to be kept in captivity or likely to die or be subjected to unnecessary suffering if it is kept in captivity;
 - (ii) any live plant that is impracticable for any reason to detain; or
 - (iii) perishable.

1.16 According to AFCD, specimens of scheduled species commonly seized include live tortoises/turtles, timber, orchids, ivory, dried seahorses, rhino horns and pangolin scales. AFCD disposes of the seized/forfeited specimens of scheduled species in accordance with CITES requirements. It may retain or donate the forfeited specimens to appropriate organisations and explore opportunities for returning live specimens seized to their countries of origin. It may also dispose of the specimens by destruction (incineration or disposal in landfill for non-living specimens) or euthanasia (for live specimens) as appropriate.

Publicity and education programmes

1.17 AFCD conducts publicity and education programmes and activities to raise the awareness of the general public, students and traders on the importance of protection of scheduled species and compliance with relevant legislations. The programmes and activities include operating the Endangered Species Resource Centre

Note 13: *The proceeds of sale of the specimens will be paid into the general revenue.*

(ESRC — see Photograph 4) (Note 14), conducting talks in schools, holding roving exhibitions in public venues, distributing advisory leaflets, mounting displays at entry/exit points of Hong Kong, and broadcasting television and radio announcements in the public interest.

Photograph 4

ESRC



Source: AFCD records

Note 14: *ESRC is located on the sixth floor of AFCD headquarters in Cheung Sha Wan Government Offices. The Centre was opened in May 2001 to help promote public awareness on scheduled species protection. It has some 600 specimens of about 200 scheduled species on display, including various kinds of fur skins, leather products, Chinese medicines, plants and live pets, and is composed of nine theme areas.*

Responsible branch of AFCD

1.18 The Conservation Branch of AFCD is responsible for the control of trade in scheduled species (Note 15). The Branch is headed by an Assistant Director and supported by 48 staff of the Endangered Species Protection Division (ESPD) for the related work (Note 16). An extract of the organisation chart of AFCD (as at 31 December 2020) is at Appendix B. In 2019-20, the expenditure incurred in the control of trade in scheduled species (including curbing of illegal trade) by AFCD amounted to \$50.8 million.

Audit review

1.19 In November 2020, the Audit Commission (Audit) commenced a review to examine the control of trade in scheduled species by AFCD. The audit review has focused on the following areas:

- (a) licensing and inspections (PART 2);
- (b) investigation and prosecution (PART 3); and

Note 15: *The Conservation Branch of AFCD is also responsible for other conservation work, including:*

- (a) *providing conservation advice on local flora, fauna and natural habitats to government bureaux/departments and other organisations;*
- (b) *conducting regular ecological surveys to take inventory and update the status of biodiversity assets and establishing an ecological database for Hong Kong;*
- (c) *monitoring the ecology of the Mai Po Inner Deep Bay Ramsar Site, and developing and managing the Hong Kong Wetland Park; and*
- (d) *promoting public awareness and participation in nature conservation through publicity and educational activities.*

Note 16: *The Import and Export Division under the Inspection and Quarantine Branch of AFCD supports ESPD in conducting consignment inspections of scheduled species at airport and land-based control points along with other inspection and quarantine duties such as import of live animals and birds controlled under the Public Health (Animals and Birds) Ordinance and the Rabies Ordinance, and import of plants controlled under the Plant (Importation and Pest Control) Ordinance.*

- (c) other related issues (PART 4).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from the Government

1.20 The Director of Agriculture, Fisheries and Conservation thanks Audit for conducting this audit review. He has said that AFCD is following up the recommendations made in this Audit Report and has already implemented some of them.

Acknowledgement

1.21 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of AFCD during the course of the audit review amid the COVID-19 epidemic.

PART 2: LICENSING AND INSPECTIONS

2.1 This PART examines AFCD's efforts in the licensing control of trade in scheduled species and in conducting the related inspections, focusing on the following areas:

- (a) import and export control (paras. 2.2 to 2.11);
- (b) possession control (paras. 2.12 to 2.23); and
- (c) shop inspections (paras. 2.24 to 2.34).

Import and export control

2.2 *Licences and certificates.* According to PESAPO, the import, introduction from the sea, export or re-export of specimens of scheduled species may require a licence issued in advance by AFCD (see para. 1.8). Each licence is valid for up to six months. For non-scheduled species, AFCD may issue certificates to facilitate their re-export (see para. 1.10). AFCD uses a computer system (i.e. the Endangered Species Licensing and Enforcement System — ESLES) to facilitate the issue of licences/certificates and related enforcement work. Table 1 shows the number of licences issued for import, export or re-export of specimens of scheduled species from 2016 to 2020 (Note 17).

Note 17: *No licence to introduce from the sea specimens of scheduled species was issued from 2016 to 2020.*

Table 1

Number of licences issued for import, export or re-export of
specimens of scheduled species
(2016 to 2020)

Licence	2016	2017	2018	2019	2020
	Number				
IL	391	325	382	448	317
EL	20	8	7	12	32
RL	16,907	16,218	16,768	18,135	9,974
Total	17,318	16,551	17,157	18,595	10,323

79,944

Source: Audit analysis of AFCD records

2.3 **Consignment inspections.** According to the guidelines to licence applicants, all import, introduction from the sea, export and re-export shipments of scheduled species, irrespective of whether a licence is required, must be inspected by AFCD upon landing in Hong Kong or prior to export (Note 18). The applicant is required to make an appointment for an inspection with AFCD at least two working days in advance. According to AFCD:

- (a) its Import and Export Division (see Note 16 to para. 1.18) conducts inspections on:
 - (i) all import consignments at the airport and land-based control points;
 - (ii) export consignments involving live animals at the airport and land-based control points; and

Note 18: According to the operation manuals of ESPD (see Note 20 to para. 2.4), due to manpower deployment, some low-risk consignments (e.g. manufactured products of Appendix II or III species) may be released without inspection.

Licensing and inspections

- (iii) transit consignments (Note 19); and
- (b) ESPD (see para. 1.18) conducts inspections on all other consignments not covered by the Import and Export Division (e.g. consignments imported/exported by sea).

Table 2 shows the number of consignment inspections conducted from 2016 to 2020.

Table 2
Number of consignment inspections
(2016 to 2020)

Type of consignment inspections	2016	2017	2018	2019	2020
	Number				
Import with IL	329	279	292	377	261
Import exempt from licensing requirement	24,433	24,470	26,264	24,153	15,426
Export and re-export	1,478	1,515	1,745	2,014	1,157
Transit	1,625	1,635	2,399	1,884	982
Total	27,865	27,899	30,700	28,428	17,826

132,718

Source: *Audit analysis of AFCD records*

Note 19: *According to PESAPO, a specimen is in transit if:*

- (a) *it is brought into Hong Kong from a place outside Hong Kong;*
- (b) *it is in the process of being taken to another place outside Hong Kong; and*
- (c) *it remains under the control of the Director of Agriculture, Fisheries and Conservation or an authorised officer under the Ordinance from the time it is brought into Hong Kong up to the time it is taken outside Hong Kong.*

Room for improvement in conducting consignment inspections

2.4 ***Guidelines on consignment inspections conducted by ESPD.*** The following guidelines on consignment inspections are laid down in the operation manuals of ESPD (hereinafter collectively referred to as ESPD operation manual — Note 20):

- (a) in conducting a consignment inspection, an inspection officer should scrutinise the validity of the original documents (e.g. a valid export permit issued by the relevant authority of the place from which the specimens are imported in the case of an import consignment inspection) and check the specimens against the details of the consignment as laid down in the documents including the species, description of specimens and quantities;
- (b) inspection of specimens should be thorough and complete (i.e. inspecting 100% of the specimens). If for any reason a complete inspection of the consignment is not feasible, prior approval from a supervisor of the inspection officer must be obtained and the proportion of consignment having been inspected (i.e. the inspection ratio) must be stated in the inspection report (see (c) below);
- (c) the inspection officer should submit a written report to his/her supervisor and update the inspection records in ESLES within three working days following the inspection; and
- (d) the supervisor should randomly re-inspect 5% of the consignment inspections conducted by the inspection officer each year (hereinafter referred to as supervisory inspections).

2.5 ***Guidelines on consignment inspections conducted by the Import and Export Division.*** The following guidelines on consignment inspections are laid down in the operation manual of the Import and Export Division:

Note 20: *AFCD has issued three operation manuals to provide guidelines to ESPD officers in carrying out their duties under PESAPO, which cover three main aspects of work, namely: (a) licensing; (b) enforcement; and (c) intelligence.*

Licensing and inspections

- (a) a minimum inspection ratio is adopted according to the weight or quantity of the specimen. Generally, a lower inspection ratio is adopted for specimens of a greater weight or quantity. For import consignments involving live animals, 100% of the specimens must be inspected; and
- (b) the actual inspection ratio should be recorded in the inspection report as far as possible.

Results of consignment inspections (other than inspections on transit consignments — see para. 2.3(a)(iii)) conducted by the Import and Export Division are input into ESLES.

2.6 *Areas for improvement.* AFCD provided Audit with a database of 121,004 consignment inspections conducted from 2016 to 2020 (comprising 17,765 inspections conducted by ESPD and 103,239 inspections conducted by the Import and Export Division) based on ESLES records (Note 21). Based on an analysis of the database and an examination of selected inspection reports, Audit has identified the following issues:

- (a) *Inspection ratios not recorded in ESLES.* The inspection ratio provides useful management information for assessing the adequacy of the consignment inspections. However, inspection ratios were not recorded in ESLES for 103,691 (86% of 121,004) inspections, comprising 103,218 conducted by the Import and Export Division and 473 conducted by ESPD. As a result, it could not be ascertained from ESLES records whether the guidelines on inspection sampling (see paras. 2.4(b) and 2.5(a)) had been followed. Upon enquiry, AFCD in February 2021 informed Audit that:
 - (i) for inspections conducted by the Import and Export Division, inspection ratio was not required to be recorded in ESLES;

Note 21: *The number of consignment inspections conducted from 2016 to 2020 generated from ESLES (i.e. 121,004) was smaller than that reported in AFCD's management reports (i.e. 132,718 — see Table 2 in para. 2.3) mainly because some of the consignment inspections conducted by the Import and Export Division (e.g. inspections on transit consignments) would not be recorded in ESLES (see para. 4.18(a)).*

- (ii) for inspections conducted by ESPD, 3% of the inspections were without the inspection ratios recorded in ESLES; and
- (iii) in 40% of those ESPD inspections without inspection ratios recorded in ESLES, enforcement actions were subsequently taken and hence all the specimens were inspected before seizure (i.e. inspection ratio was 100%).

While noting AFCD's explanations, Audit considers that AFCD needs to take measures to ensure that inspection ratios for all consignment inspections (i.e. conducted by both ESPD and the Import and Export Division) are recorded in ESLES to facilitate management monitoring and review;

- (b) ***Inadequate guidelines on sampling.*** The operation manual of the Import and Export Division has stipulated the minimum inspection ratio to be adopted in a consignment inspection according to the weight or quantity of the specimen (see para. 2.5(a)). In contrast, no such detailed guidelines were stipulated in ESPD operation manual. Audit analysis of the 17,292 (17,765 less 473) consignment inspections (with inspection ratios recorded) conducted by ESPD revealed that the inspection ratios ranged from 0.5% to 100%. In 5,644 (33%) of the 17,292 inspections, the inspection ratios were less than 10%. Upon enquiry, AFCD in February and March 2021 informed Audit that for inspections conducted by ESPD, various inspection ratios were adopted for consignments in response to the different degrees of risk and types of scheduled species which varied with time. For example, a lower inspection ratio was set for low-risk homogeneous consignments (e.g. 5% inspection ratio for consignments of American ginsengs, cosmetics and caviar under normal circumstances) after an internal review conducted in October 2017. In Audit's view, AFCD needs to lay down detailed guidelines on inspection sampling in ESPD operation manual;
- (c) ***Delays in submitting inspection reports.*** As ESLES did not capture the submission dates of inspection reports, Audit selected 25 inspection reports prepared by ESPD inspection officers for examination. Audit found that for 9 (36%) reports, the inspection officers did not submit the reports within three working days following the inspections, contrary to the guidelines set out in ESPD operation manual (see para. 2.4(c)). For 3 of the 9 reports, the inspection officers submitted the inspection reports more than

30 working days after the inspections. Upon enquiry, AFCD in February 2021 informed Audit that more time was required for preparing some inspection reports involving a large quantity of information (e.g. with photographs of a large number of individual specimens). In Audit's view, AFCD should review and update as appropriate the time target in ESPD operation manual for submission of inspection reports and take measures to ensure compliance; and

- (d) ***Inadequate supervisory inspections.*** According to ESPD operation manual, supervisory inspections should be conducted for 5% of the consignment inspections each year (see para. 2.4(d)). As consignments will be released if no irregularity is found during inspections, supervisory inspections are conducted in the form of supervisor-accompanied inspections. According to AFCD records, supervisory inspections were conducted for 0.1% to 1.4% of ESPD's consignment inspections in each year from 2016 to 2020. In Audit's view, AFCD should take measures to ensure that adequate supervisory inspections are conducted in accordance with ESPD operation manual.

Need to review follow-up actions on expired licences

2.7 ***Follow-up actions on expired licences.*** According to PESAPO, on issuing any licence, the Director of Agriculture, Fisheries and Conservation may impose such conditions as he considers appropriate. Any breach of a licence condition is an offence and the licensee is liable on conviction to a maximum fine of \$50,000. For ILs, ELs and RLs, one of the licence conditions is that, on expiry, any unused licences should be returned to AFCD for cancellation. To keep track of the expired licences, ESPD operation manual requires that AFCD staff should:

- (a) at the beginning of each quarter, generate a list of expired ILs, ELs and RLs from ESLES. The list should be put on file;
- (b) issue letters to remind those licensees on the list to:
 - (i) return the unused licences;
 - (ii) provide documents to show that the licences have been used; or

- (iii) report that the licences are lost; and
- (c) update the records in ESLES upon receipt of the licensees' responses to the reminder letters.

2.8 ***Licensees not responding to reminder letters.*** Audit analysis of ESLES records revealed that, of 79,944 ILs, ELs and RLs issued from 2016 to 2020 (see Table 1 in para. 2.2), 13,394 (17%) had expired as at 31 December 2020 but the relevant licensees had not responded to the reminder letters issued by AFCD (see para. 2.7(b)) as at 31 January 2021. Audit analysis further revealed that the 13,394 expired licences were held by 498 licensees. The number of expired licences held by each licensee ranged from 1 to 2,279 (27 on average).

2.9 Upon enquiry, AFCD in December 2020, and January and March 2021 informed Audit that:

- (a) it was not necessary to generate the lists of expired ILs, ELs and RLs for issuing reminder letters as the information had already been recorded in ESLES;
- (b) in practice, only one reminder letter would be sent to the licensee for each expired licence; and
- (c) all issued licences carried effective dates on them and hence the licensees would not be able to use the expired licences.

Not returning an expired licence that had not been used to AFCD for cancellation is a breach of licence conditions. In Audit's view, there is a need for AFCD to review the objectives and effectiveness of the follow-up actions on expired licences, including the procedures for dealing with licensees not responding to AFCD's reminder letters on expired licences.

Audit recommendations

2.10 **Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:**

- (a) **regarding the conduct of consignment inspections:**
 - (i) **take measures to ensure that inspection ratios for all consignment inspections are recorded in ESLES;**
 - (ii) **lay down detailed guidelines on inspection sampling in ESPD operation manual;**
 - (iii) **review and update as appropriate the time target in ESPD operation manual for submission of inspection reports and take measures to ensure compliance; and**
 - (iv) **take measures to ensure that adequate supervisory inspections are conducted in accordance with ESPD operation manual; and**
- (b) **review the objectives and effectiveness of the follow-up actions on expired ILs, ELs and RLs, including the procedures for dealing with licensees not responding to AFCD's reminder letters on expired licences.**

Response from the Government

2.11 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that:

- (a) AFCD is conducting a review on its operations in consignment inspections and the follow-up actions with the expired ILs, ELs and RLs. Detailed guidelines will be added or revised, where appropriate, after the review; and
- (b) AFCD has already started to record the inspection ratios of consignment inspections conducted by the Import and Export Division in ESLES.

Possession control

2.12 ***Licensing requirement.*** According to PESAPO, the possession of a specimen of an Appendix I species or a live specimen of wild origin of an Appendix II species (i.e. specimens requiring PLs) requires a PL issued in advance by AFCD (see para. 1.8(c)) unless it is exempted. A PL, which has a validity period of up to five years, is issued under three circumstances:

- (a) import of specimens requiring PLs;
- (b) renewal of existing PLs upon expiry; or
- (c) local transfer of specimens requiring PLs from a PL licensee to an applicant.

One PL is issued in respect of each keeping premises which may keep specimens of more than one scheduled species. On average, AFCD issued 126 PLs in each year from 2016 to 2020.

2.13 ***Inspections.*** According to ESPD operation manual, inspections to the keeping premises of specimens requiring PLs (see para. 1.11(b)(ii)) may be conducted upon new application, renewal or variation of PLs (e.g. amending the maximum quantity of a specimen to be held under a PL). The inspection officer's tasks mainly include checking the quantity of specimens present at the keeping premises against the maximum quantity allowed under the relevant PL. On average, AFCD conducted 148 inspections to keeping premises in each year from 2016 to 2020.

Need to follow laid-down procedures in processing PL applications

2.14 ***Procedures for processing new and renewal applications.*** Procedures for processing PL applications are laid down in ESPD operation manual, including the following requirements:

- (a) ***New applications.*** In inspecting the keeping premises of a new PL applicant, the inspection officer should check if the keeping facilities (e.g. bird cages and fish tanks) are suitable and have sufficient space to accommodate the intended licensed quantity of the specimens, in particular

if live animals are involved. The inspection report should include photographs and measurement of the keeping facilities; and

- (b) ***Renewal applications.*** Upon application of PL renewal, the applicant is required to submit a photocopy of the previous PL and transaction records, along with the application form. In addition, as a PL condition, a licensee should record the details of every transaction (e.g. the date and quantities of acquisition, use, sale or disposal, and the stock balance) of the licensed species on a prescribed form within three days of the completion of the transaction, and attach each and every supporting document with the form.

2.15 ***Areas for improvement.*** Audit selected 19 PL applications of 10 licensees for examination and identified the following areas for improvement:

- (a) in four new applications for possession of live specimens (e.g. humphead wrasse and birds), there was no record of measurement of the keeping facilities, contrary to the requirements in ESPD operation manual (see para. 2.14(a)); and
- (b) in one renewal application, AFCD approved the application despite that not every transaction was recorded on the prescribed form, contrary to the PL condition (see para. 2.14(b)).

In Audit's view, AFCD needs to take measures to ensure that the laid-down procedures in ESPD operation manual are followed in processing PL applications.

Need to review the procedures for inspecting premises with expired and un-renewed PLs

2.16 ***Guidelines for handling expired PLs.*** As a PL condition, a licensee may apply to renew the PL before it expires. If the licensee is still in possession of the specimens for commercial purpose, it is important to renew the PL because the specimens will be considered illegally possessed after the expiry of the PL. According to ESPD operation manual:

- (a) licensing officers should issue two reminder letters to the licensees before the expiry of the PLs. The first reminder letter is issued around two months before the expiry date. The second reminder letter is issued after one month if the licensee does not respond to the first reminder letter;
- (b) if the licensee does not respond to the second reminder letter, AFCD will assume that the licensee no longer possesses the specimens; and
- (c) inspection officers responsible for routine shop inspections (see paras. 1.11(b)(i) and 2.24) should generate a list of expired and un-renewed PLs from ESLES and give priority to the commercial premises on the list. If specimens requiring PLs are still found in the premises during inspections, the specimens will be seized and prosecution actions will be taken against the owner where appropriate.

2.17 ***Guidelines on inspections of commercial premises with expired and un-renewed PLs not followed.*** To ascertain whether the guidelines in paragraph 2.16(c) are complied with, Audit requested AFCD to provide the list of routine shop inspections conducted to commercial premises with expired and un-renewed PLs from 2016 to 2020. Upon enquiry, AFCD in February 2021 informed Audit that:

- (a) the inspection officers were no longer required to generate a list of premises with expired and un-renewed PLs for routine shop inspections as such inspections were conducted on a risk-based approach (i.e. irrespective of whether a shop had no PL, had a valid PL, or had an expired PL, it might be selected in the routine shop inspection); and
- (b) there were various reasons for a licensee not to renew the PL (e.g. closing of business or a shop ceasing to offer scheduled species for sale). Having an “expired PL” was not a high risk factor in illegal trade in scheduled species.

Audit considers that AFCD should review whether the current procedures for inspecting commercial premises with expired and un-renewed PLs effectively meet its licensing control objectives, and update ESPD operation manual if necessary.

Need to continue efforts in developing unique markings on specimens of scheduled species

2.18 *Requirements on unique markings on specimens.* Under the current licensing regime, except for elephant ivory (other than antique ivory), there is no mandatory requirement imposed by AFCD on unique markings on specimens subject to or exempt from the licensing requirement. From time to time, there are concerns from the public and some Members of the Legislative Council on the identification of scheduled species and possible laundering, i.e. laundering of illegal specimens into the market as licensed specimens or specimens exempt from licensing requirement (e.g. pre-Convention specimens — see para. 1.9(a)).

2.19 *Application of unique markings on specimens.* Currently, unique markings are adopted for a limited number of species. The tagging or labelling techniques currently adopted in Hong Kong include:

- (a) microchips for captive-bred Asian arowana as required by CITES;
- (b) holograms for elephant ivory other than antique ivory imposed by AFCD;
and
- (c) number tags for crocodilian skin as required by CITES.

2.20 *AFCD's efforts in pursuing new techniques for species identification.* In a meeting of the Inter-departmental Wildlife Crime Task Force (see para. 1.13) held in June 2019, AFCD reported that a facial-recognition programme was being pursued in collaboration with a local university for identifying individual humphead wrasse. According to AFCD, since individual humphead wrasse's facial pattern is unique (see Photographs 5 and 6 for two examples), such facial-recognition technique would be useful in monitoring local humphead wrasse trade to check if there is any laundering of the species from doubtful sources. An automatic comparison tool was being developed.

Photographs 5 and 6

Unique faces of two humphead wrasses

Photograph 5



Photograph 6



Source: AFCD records

2.21 In February 2021, AFCD informed Audit that:

- (a) the facial-recognition programme was a scientific research project solely funded by the local university. AFCD had been providing comments and technical inputs as a potential user; and
- (b) the facial-recognition programme comprised two main phases of development, with the first phase completed in 2020. The second phase of development was underway.

In Audit's view, apart from continuing the efforts to pursue the facial-recognition programme for humphead wrasse in collaboration with the local university, there is merit for AFCD to explore the need and feasibility of labelling or marking individual specimens of other commonly possessed scheduled species in Hong Kong, such as reptiles and amphibians, given that a number of such species (e.g. lizards and tortoises) have recently been included in CITES Appendix I after the meeting of the parties to CITES held in August 2019 (see para.1.4).

Audit recommendations

2.22 **Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:**

- (a) **take measures to ensure that the laid-down procedures in ESPD operation manual are followed in processing PL applications;**
- (b) **review whether the current procedures for inspecting commercial premises with expired and un-renewed PLs effectively meet AFCD's licensing control objectives, and update ESPD operation manual if necessary;**
- (c) **continue the efforts to pursue the facial-recognition programme for humphead wrasse in collaboration with the local university; and**
- (d) **explore the need and feasibility of labelling or marking individual specimens of other commonly possessed scheduled species in Hong Kong.**

Response from the Government

2.23 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that:

- (a) apart from reminding AFCD staff of the operation procedures regarding possession control of scheduled species, AFCD is conducting a review on the existing practices with a view to updating ESPD operation manual; and
- (b) the efforts in applying the facial recognition technique to the control of trade in humphead wrasse are underway. AFCD will keep a close eye on possible labelling or marking methods to enhance the traceability of individual specimens of other commonly possessed scheduled species.

Shop inspections

2.24 According to AFCD, shop inspections are an important area of work to detect and deter possible violations of PESAPO. Shop inspections are conducted at retail outlets of various nature, such as wet market, aquarium, pet shop, flower shop, craft shop, and Chinese medicine shop (see para.1.11(b)(i)). In practice, there are two types of shop inspections, namely routine shop inspections and inspection-cum-education visits. Routine shop inspections mainly aim at detecting possible violations of PESAPO (e.g. possessing scheduled species for sale without the required licences). Inspection-cum-education visits serve an additional purpose to educate the shop owners regarding the provisions of PESAPO, particularly changes to the legislation. After a shop inspection, the inspection officer is required to submit an inspection report to his/her supervisor and update the records in ESLES.

Need to keep under review target number of shop inspections

2.25 *Number of shop inspections.* According to ESPD operation manual, in view of the large number of shops involved, shop inspections are conducted on a risk-based approach, with a target number of about 1,500 inspections annually. Table 3 shows the number of shop inspections conducted from 2016 to 2020.

Table 3
Number of shop inspections
(2016 to 2020)

Type of shop inspections	2016	2017	2018	2019	2020
	Number				
Routine shop inspection	1,483 (79%)	1,503 (53%)	1,684 (54%)	1,132 (44%)	376 (25%)
Inspection-cum-education visit	402 (21%)	1,319 (47%)	1,418 (46%)	1,426 (56%)	1,126 (75%)
Total	1,885 (100%)	2,822 (100%)	3,102 (100%)	2,558 (100%)	1,502 (100%)

Source: Audit analysis of AFCD records

Licensing and inspections

2.26 *Need to keep under review the target number for shop inspections.* Audit analysed the number of shop inspections conducted from 2016 to 2020 and found that:

- (a) from 2016 to 2019, the number of shop inspections each year ranged from 1,885 to 3,102 (2,592 on average), i.e. exceeding the annual target of 1,500 inspections by 26% to 107% (73% on average);
- (b) there was a decrease of 41% in the number of shop inspections from 2,558 in 2019 to 1,502 in 2020 due to the COVID-19 epidemic; and
- (c) there was a shift in the inspection focus from routine shop inspections to inspection-cum-education visits, as reflected by the decreasing percentage of routine shop inspections from 79% in 2016 to 25% in 2020 and the increasing percentage of inspection-cum-education visits from 21% to 75% in the same period.

While the actual number of inspections in each year from 2016 to 2020 had exceeded the annual target of 1,500, there was no documentary evidence showing that AFCD had reviewed the target number of shop inspections. In Audit's view, AFCD needs to keep under review the target number of routine shop inspections and inspection-cum-education visits laid down in ESPD operation manual to ensure that it is effective in enhancing performance. AFCD should also consider setting separate targets for the two types of inspections given their different nature and the shift in inspection focus.

Need to ensure that shop list is up-to-date

2.27 According to AFCD, a shop list is maintained in ESLES to facilitate the conduct of shop inspections. The shop list has been compiled by consolidating the shop information collected by AFCD staff and in licence applications. All premises, which keep or may keep scheduled species, encountered during shop inspections would be included in the list. The list should be updated when any premises is found to have commenced business or have ceased operation during shop inspections or licence applications. Audit selected some 150 shop inspection reports in 2017 for examination and found that 24 shops inspected were no longer in operation. However, 16 (67%) of the 24 shops were not yet removed from the shop list in ESLES as of December 2020. In Audit's view, AFCD needs to take measures to ensure that the shop list for shop inspection is up-to-date.

Need to conduct inspections to shops on the watch list of shops with irregularities

2.28 According to ESPD operation manual, a watch list of shops with irregularities identified in any inspection conducted in the past two years should be maintained. The shops on the watch list are considered high-risk and should be inspected twice a year. Upon enquiry, AFCD in December 2020 informed Audit that it had not maintained the watch list of shops with irregularities prior to October 2020. After an internal review in October 2020, AFCD decided to reinstate the requirement of maintaining the watch list. In Audit's view, AFCD should continue to conduct inspections to the shops on the watch list of shops with irregularities in accordance with ESPD operation manual.

Need to lay down guidelines on follow-up actions for shops found closed at the time of inspection

2.29 Audit examined ESPD operation manual and found that there were no laid-down guidelines on the follow-up actions that should be taken in case a shop was found closed at the time of inspection (e.g. conducting a re-inspection subsequently). Audit analysis of ESLES records on the shop inspections conducted from 2016 to 2020 revealed that 663 shops were found closed at the time of inspection. Among the 663 shops, re-inspections were conducted to 493 (74%) shops subsequently but not the other 170 (26%) shops. In Audit's view, AFCD should lay down guidelines on the follow-up actions that should be taken when a shop is found closed at the time of inspection (e.g. conducting a re-inspection within a specific timeframe).

Room for improvement in preparing and submitting inspection reports

2.30 ***Guidelines in ESPD operation manual.*** According to ESPD operation manual:

- (a) an inspection officer is required to use an inspection report template to record his/her findings during an inspection. Among other information, the inspection officer should record whether any irregularity is found and provide details of the irregularity found during an inspection; and

- (b) on or before the next working day of the inspection, the inspection officer should submit to the supervisor the inspection report for premises with irregularities detected and requiring follow-up actions.

2.31 ***Areas for improvement.*** Audit examination has revealed the following areas for improvement:

- (a) ***Irregularities not accurately recorded.*** In Audit's view, it is important to accurately record in the inspection report whether or not an irregularity is found during a shop inspection because such information would be updated in ESLES for the compilation of management information (e.g. for preparation of the watch list of shops with irregularities (see para. 2.28)). Audit analysed ESLES records on the shop inspections conducted from 2016 to 2020 and noted that verbal warnings were given to the relevant shopkeepers in 25 shop inspections. However, in 4 (16%) of the 25 inspections, the inspection officers incorrectly indicated in the inspection reports that no irregularity was found; and
- (b) ***Delays in submitting inspection reports.*** Audit analysed ESLES records on the shop inspections conducted from 2016 to 2020 and noted that irregularities were reported to have been detected in 93 inspections. Audit found that in 54 (58%) of the 93 inspections, inspection reports were not submitted on or before the next working day of the inspection, contrary to the guidelines in ESPD operation manual (see para. 2.30(b)). The inspection reports were submitted 2 to 11 working days (4 working days on average) after the inspections.

In Audit's view, AFCD needs to remind its inspection officers to accurately record irregularities identified during shop inspections in inspection reports and timely submit inspection reports in accordance with ESPD operation manual.

Need to conduct supervisory checks as required

2.32 According to ESPD operation manual, supervisory check should be conducted for 5% of the shop inspections conducted each year. Supervisory checks are conducted in the form of supervisory re-inspections on the shops inspected. Upon enquiry, AFCD in December 2020 and February 2021 informed Audit that:

- (a) due to manpower deployment, supervisory re-inspections had not been conducted previously; and
- (b) after an internal review in October 2020, supervisory re-inspections resumed in December 2020.

In Audit's view, AFCD needs to take measures to ensure that supervisory re-inspections are conducted in accordance with ESPD operation manual.

Audit recommendations

2.33 Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:

- (a) **keep under review the target number of routine shop inspections and inspection-cum-education visits laid down in ESPD operation manual, and consider setting separate targets for the two types of inspections;**
- (b) **take measures to ensure that the shop list for shop inspection is up-to-date;**
- (c) **continue to conduct inspections to the shops on the watch list of shops with irregularities in accordance with ESPD operation manual;**
- (d) **lay down guidelines on the follow-up actions that should be taken when a shop is found closed at the time of inspection;**
- (e) **remind the inspection officers to:**
 - (i) **accurately record irregularities identified during shop inspections in inspection reports; and**
 - (ii) **timely submit inspection reports in accordance with ESPD operation manual; and**

- (f) **take measures to ensure that supervisory re-inspections are conducted in accordance with ESPD operation manual.**

Response from the Government

2.34 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that:

- (a) AFCD has set separate targets for routine shop inspections and inspection-cum-education visits. Such targets will not be set out in ESPD operation manual but will be reviewed annually when formulating the annual inspection plan at the beginning of each year;
- (b) AFCD is reviewing the overall practice of shop inspections and the guidelines in ESPD operation manual to ensure that there is sufficient guidance; and
- (c) supervisory checks regarding shop inspections have been enhanced to ensure compliance with laid-down procedures and AFCD is exploring the possibility of enhancing ESLES to assist supervisory checks.

PART 3: INVESTIGATION AND PROSECUTION

3.1 This PART examines AFCD's work in investigation and prosecution of alleged contravention of PESAPO, focusing on the following areas:

- (a) monitoring of cases under investigation and prosecution (paras. 3.2 to 3.10);
- (b) identification of scheduled species (paras. 3.11 to 3.17); and
- (c) receiving intelligence reports (paras. 3.18 to 3.25).

Monitoring of cases under investigation and prosecution

3.2 AFCD conducts investigation on alleged cases in contravention of PESAPO and takes prosecution actions as appropriate. Investigation work may involve preliminary evidence collection (including identification of species), site inspection, search operation, interview, taking caution statement, arrest and seizure of specimens. Upon completion of an investigation:

- (a) if there is sufficient evidence, AFCD will instigate prosecution as appropriate; and
- (b) if prosecution is not instigated or no person is convicted after prosecution, AFCD:
 - (i) may apply for court orders for forfeiture of seized specimens to the Government (see para. 1.15(b)(ii)); and
 - (ii) will take no further action for cases without specimens seized.

In 2020, AFCD commenced investigation in 410 cases and instigated prosecution in 25 cases. There were 359 cases with seizure of scheduled species and 45 cases of conviction in the same year.

Need to enhance management information on cases under investigation and prosecution

3.3 In January 2021, AFCD provided Audit with a database of alleged cases in contravention of PESAPO opened for investigation from 2010 to 2020 (up to November) based on ESLES (see para. 2.2) records. According to the database, 6,126 cases were opened for investigation in the period and as at 30 November 2020, 327 of the 6,126 cases were remarked as under investigation and prosecution (Note 22). Of these 327 cases:

- (a) the date of offence was not recorded in 4 cases (Note 23); and
- (b) the dates of offence of the remaining 323 cases were between November 2010 and November 2020. Table 4 shows the ageing analysis of these cases as at 30 November 2020.

Note 22: *For these 327 cases, no information was readily available from ESLES showing the breakdown into number of cases under investigation and that under prosecution.*

Note 23: *In February 2021, AFCD informed Audit that regarding these 4 cases:*

- (a) *for 2 cases, the dates of offence were not available when the database was provided to Audit as they involved offences in October 2020. AFCD had subsequently updated the records in ESLES;*
- (b) *1 case involved abandoned specimens found with no information on the date of offence. AFCD would apply for a court order for forfeiture of the specimens to the Government (see para. 1.15(b)(ii)); and*
- (c) *1 case involved no seizure of specimens and no further action was required.*

Table 4

**Ageing analysis of 323 cases under investigation and prosecution
(30 November 2020)**

Time elapsed from date of offence	Number of cases under investigation and prosecution
6 months or less	79 (24%)
More than 6 months to 1 year	29 (9%)
More than 1 year to 5 years	184 (57%)
More than 5 years	31 (10%)
Total	323 (100%)

Source: Audit analysis of AFCD records

3.4 Audit selected 20 of the 323 cases for further examination and found that:

- (a) in 3 cases, the dates of offence were between January 2012 and August 2016, and AFCD could not provide the case files for Audit examination. In February 2021, AFCD informed Audit that it had checked the available information that the investigation of the 3 cases had been completed and no prosecution was instigated;
- (b) in 15 cases, investigation and/or prosecution had been completed. However, AFCD was yet to take the required follow-up actions (e.g. warning letter not yet issued and/or court order for forfeiture of seized specimens not yet applied for). Case 1 is an example; and
- (c) in 2 cases, AFCD had completed investigation and/or prosecution and no further action was required. However, ESLES records had not been updated.

Case 1

Follow-up actions not taken after investigation and/or prosecution (February 2014 to November 2020)

1. In February 2014, an alleged case of illegal import of specimens of scheduled species in contravention of PESAPO was referred to AFCD. The case involved the import of 0.9 kilogram of specimens of an Appendix II species in a parcel. The specimen was seized in accordance with PESAPO.

2. Due to inadequate evidence showing that the recipient had caused the import, in March 2014, AFCD decided not to instigate prosecution, but to:

- (a) issue a warning letter to the parcel recipient reminding him of the need to comply with the requirements under PESAPO for trade in scheduled species;
- (b) request the recipient to sign a surrender form to surrender the specimens to the Government; and
- (c) apply for a court order for forfeiture of the specimens to the Government if the recipient did not surrender the specimens as requested in (b) above.

3. In June 2014, due to perishable nature of the specimens, with the approval of the Director of Agriculture, Fisheries and Conservation, the specimens were disposed of by dumping (see para. 1.15(c)) and the follow-up actions mentioned in paragraph 2(b) and (c) above were no longer necessary. However, up to 30 November 2020, the required follow-up action mentioned in paragraph 2(a) above (i.e. issuing a warning letter to the parcel recipient) had not yet been taken.

Audit comments

4. According to ESLES records as at 30 November 2020 (see para. 3.3), the case was still under investigation and prosecution. In fact, AFCD had already completed investigation on the case and decided not to instigate any prosecution in 2014 but had not taken the required follow-up action (i.e. issuing a warning letter) and had not updated ESLES records after a lapse of six years.

Source: Audit analysis of AFCD records

3.5 According to the Magistrates Ordinance (Cap. 227), prosecution action should be taken within six months from the date of offence (i.e. time-barred after six months — Note 24). Since separate information on the number of cases under investigation and that under prosecution were not readily available from ESLES (see Note 22 to para. 3.3), the number of time-barred cases, if any, could not be readily ascertained from ESLES. Audit considers that AFCD needs to review the status of all cases remarked as under investigation and prosecution in ESLES (see para. 3.3) and where appropriate, instigate prompt prosecution before the cases are time-barred and take prompt follow-up actions (e.g. applying for court orders for forfeiture of specimens and issuing warning letters) on cases with no prosecution instigated. AFCD also needs to take measures to ensure that all case files for cases under investigation and prosecution are kept properly and case records in ESLES are properly updated to facilitate monitoring of outstanding cases and taking follow-up actions (e.g. prosecution) promptly. Furthermore, AFCD needs to consider enhancing ESLES to record cases under investigation and those under prosecution separately for better case monitoring.

Need to closely monitor cases pending application for court orders for forfeiture of specimens to the Government

3.6 If a specimen of scheduled species is seized and no person is convicted of an offence under PESAPO or the owner of the seized specimen is unknown or cannot be found, AFCD may apply for a court order to forfeit the seized specimen to the Government (see para. 1.15(b)(ii)). Audit analysis of the database provided by AFCD on the 6,126 cases opened for investigation from 2010 to 2020 (up to November) (see para. 3.3) revealed that as at 30 November 2020:

- (a) 601 cases were remarked as pending application for court orders for forfeiture of the seized specimens;
- (b) the date of offence was not recorded in 2 of the 601 cases. In February 2021, AFCD informed Audit that as only abandoned specimens

Note 24: *According to the Magistrates Ordinance, in any case of an offence, other than an indictable offence, where no time is limited by any enactment for making any complaint or laying any information in respect of such offence, such complaint shall be made or such information laid within six months from the time when the matter of such complaint or information respectively arose.*

Investigation and prosecution

were involved in the cases, there was no information on the date of offence;
and

- (c) the time elapsed from the date of offence was more than 1 year for 566 (94%) of the remaining 599 (601 less 2) cases (see Table 5).

Table 5

**Time elapsed from the date of offence of the 599 cases
pending application for court orders
(30 November 2020)**

Time elapsed from date of offence	Number of cases pending application for court orders	
6 months or less	10 (2%)	
More than 6 months to 1 year	23 (4%)	
More than 1 year to 5 years	354 (59%)	566 (94%)
More than 5 years	212 (35%)	
Total	599 (100%)	

Source: Audit analysis of AFCD records

3.7 AFCD has not laid down guidelines on the timeframe for applying for court orders for forfeiture of seized specimens to the Government. As shown in Table 5 in paragraph 3.6, in 566 (94%) cases, while the time elapsed from the date of offence was more than 1 year, AFCD was yet to apply for the court orders. Audit selected 20 cases of these 566 cases for further checking in ESLES and noted that in 9 cases, the specimens had already been disposed of by exercising the Director of Agriculture, Fisheries and Conservation's authority in disposal of specimens under PESAPO (see para. 1.15(c)).

3.8 Audit considers that AFCD needs to review all cases remarked as pending application for court orders in ESLES to ascertain whether a court order is required for the disposal of the seized specimens in each case and take prompt actions to apply for the orders as appropriate. AFCD also needs to consider setting a timeframe for applying for court orders for forfeiture of seized specimens to the Government in future and take measures to ensure that case records in ESLES are properly updated to facilitate monitoring of outstanding cases and taking follow-up actions (e.g. court order application) promptly.

Audit recommendations

3.9 Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:

- (a) **review the status of all cases remarked as under investigation and prosecution in ESLES, and:**
 - (i) **where appropriate instigate prompt prosecution before the cases are time-barred; and**
 - (ii) **take prompt follow-up actions (e.g. applying for court orders for forfeiture of specimens and issuing warning letters) on cases with no prosecution instigated;**
- (b) **take measures to ensure that all case files for cases under investigation and prosecution are kept properly;**
- (c) **consider enhancing ESLES to record cases under investigation and those under prosecution separately for better case monitoring;**
- (d) **review all cases remarked as pending application for court orders in ESLES to ascertain whether a court order is required for the disposal of the seized specimens in each case and take prompt actions to apply for the orders as appropriate;**
- (e) **consider setting a timeframe for applying for court orders for forfeiture of seized specimens to the Government in future; and**

- (f) **take measures to ensure that case records in ESLES are properly updated to facilitate monitoring of outstanding cases and taking follow-up actions (e.g. prosecution and court order application) promptly.**

Response from the Government

3.10 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that:

- (a) AFCD is conducting a review on all cases remarked as under investigation and prosecution, and pending application for court orders; and
- (b) while AFCD is currently making use of a register to monitor the progress of enforcement cases, it is also exploring the possibility of enhancing the relevant computer systems to assist the monitoring and updating of the progress of the cases.

Identification of scheduled species

3.11 An enforcement officer can only seize a specimen under PESAPO if the officer reasonably suspects that it is a specimen of a scheduled species, and its import, introduction from the sea, export, re-export or possession is in contravention of PESAPO (see para. 1.15(a)). Effective identification of scheduled species is essential for taking prompt enforcement actions.

Need to continue efforts in exploring technology for quick identification of scheduled species

3.12 *Current species identification practice.* According to AFCD, frontline enforcement officers will conduct preliminary identification on suspected specimens of scheduled species based on the morphological characteristics (i.e. the form, shape and structure) of the specimens. Upon preliminary identification, the specimens will be sent to a suitable place (e.g. AFCD headquarters) for confirmation of identity by designated officers of ESPD. Where necessary and applicable, specimens that could not be identified readily by the designated ESPD officers will be sent to a laboratory

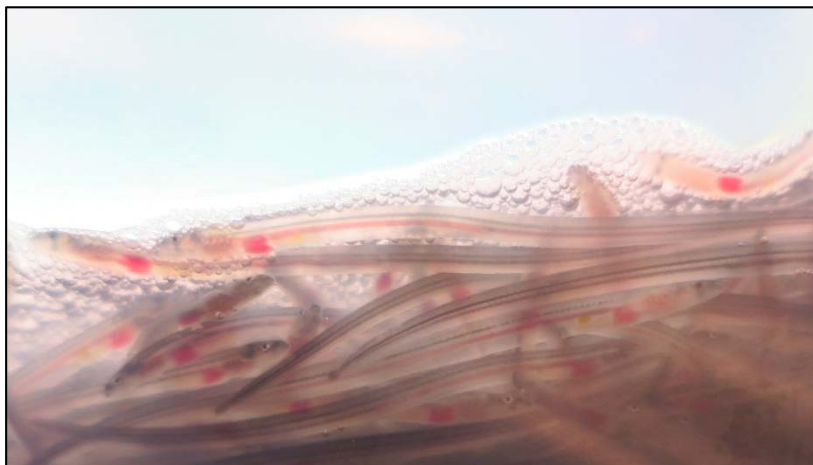
for further tests on deoxyribonucleic acid (DNA). However, the results of laboratory tests are usually available only after one to two weeks.

3.13 ***Use of DNA test technology.*** A DNA test technology, namely real-time polymerase chain reaction has been developed for species identification for a few specific scheduled species where identification based on morphological characteristics of the specimens is not possible. If the DNA of a specimen matches with that of the specific scheduled species, the specimen will be seized for further investigation (Note 25). According to AFCD, real-time polymerase chain reaction technology is applicable to:

- (a) ***European eel (Appendix II species).*** Live European eel is usually intercepted while in glass eel stage (see Photograph 7), in which case no specific morphological features could be relied on for identification; and

Photograph 7

European eel in glass eel stage (Appendix II species)



Source: AFCD records

Note 25: *According to AFCD, real-time polymerase chain reaction is a quick DNA test. The test result will be available in four to five hours. AFCD could rely on the result to seize the specimen. However, the test result from real-time polymerase chain reaction is not an admissible evidence by the court. Conventional DNA test at laboratory will still be required for prosecution.*

Investigation and prosecution

- (b) *Fins of some sharks (Appendix II species).* Fins of some sharks in Appendix II (see Photograph 8 for an example) look similar to those of other non-scheduled shark species. Real-time polymerase chain reaction technology has been deployed to assist identification.

Photograph 8

Shark fins (shark of an Appendix II species)



Source: AFCD records

3.14 In February 2021, AFCD informed Audit that:

- (a) it had been working with experts in the field to apply the real-time polymerase chain reaction technology to shark species newly included in CITES Appendix II in 2019. The testing of two newly listed shark species was almost ready for use; and
- (b) it was also working with the experts on applying the technology to CITES-listed rays (a group of cartilaginous fishes).

3.15 According to AFCD, while there was no time limit set for identification of scheduled species, in view of the rapid cargo and passenger movement in Hong Kong, it often had to determine the identity of the specimens suspected to be of a scheduled species for prompt seizure under PESAPO within half a day. In view of this, AFCD should continue the efforts in exploring technology for quick identification of scheduled species that cannot be readily identified by morphology and keep in view

the development of new technologies in identification of scheduled species with a view to further enhancing its enforcement work.

Audit recommendations

3.16 Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:

- (a) continue the efforts in exploring technology for quick identification of scheduled species that cannot be readily identified by morphology; and**
- (b) keep in view the development of new technologies in identification of scheduled species with a view to further enhancing AFCD's enforcement work.**

Response from the Government

3.17 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that AFCD has all along been keeping in view the development of new technologies in identification of scheduled species that could not be readily identified by morphology. Some of the examples are the use of novel technology for quick identification of scheduled species of European eel in glass eel stage and shark fins which are the first applications of their kind in the world.

Receiving intelligence reports

3.18 From time to time, AFCD receives intelligence reports from various sources on alleged cases in contravention of PESAPO. Sources of the reports include the general public, registered informers under the reward scheme (see para. 1.14), government bureaux/departments, non-governmental organisations (NGOs) and overseas agencies (e.g. CITES Management Authorities).

Need to keep under review the number of intelligence reports received

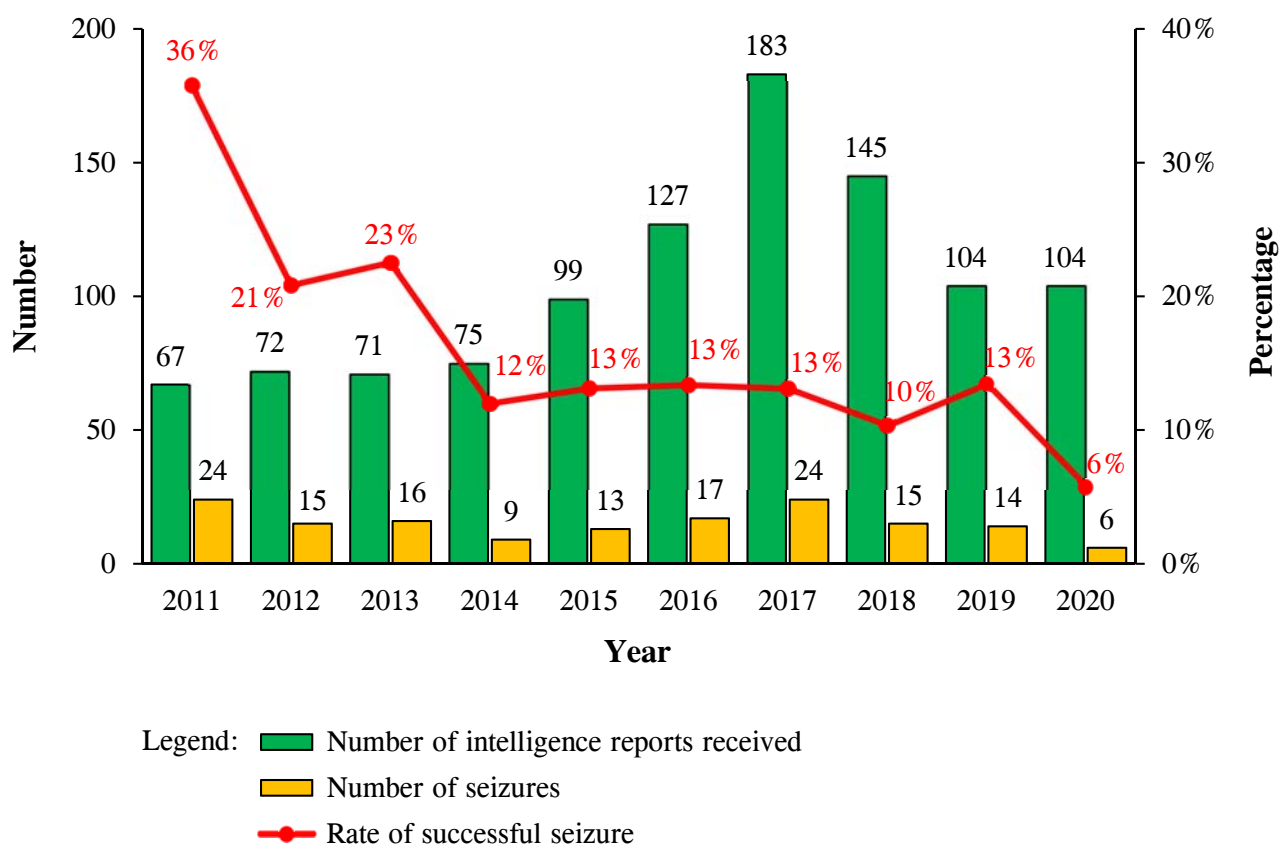
3.19 For the period 2011 to 2020, AFCD received a total of 1,047 intelligence reports. The majority of the intelligence reports (91%) were from the general public (63%) and registered informers under the reward scheme (28%). Audit noted that:

- (a) the number of intelligence reports received increased from 67 in 2011 to 183 in 2017, and then decreased to 104 in 2020; and
- (b) the rate of successful seizure (measured as the number of seizures as a percentage of the number of intelligence reports received) ranged from 6% to 36% from 2011 to 2020.

Figure 1 shows the number of intelligence reports received, number of seizures and the rate of successful seizure from 2011 to 2020.

Figure 1

**Number of intelligence reports received, number of seizures
and rate of successful seizure
(2011 to 2020)**



Source: Audit analysis of AFCD records

3.20 Audit analysis of AFCD records revealed that from 2016 to 2020, 13% to 30% of investigation cases were initiated based on intelligence reports. In light of the decreasing number of intelligence reports received in recent years, Audit considers that there is merit for AFCD to keep under review the number of intelligence reports received and explore measures to encourage more intelligence reports.

Need to consider conducting a review on the reward scheme

3.21 An individual (Note 26) who would like to provide information in respect of scheduled species could register with AFCD as an informer under the reward scheme (see para. 1.14). An interested person is required to register with AFCD his/her background information for vetting. Upon approval by AFCD, a code name and number will be assigned to the registered informer. The background of the registered informer and the information provided by the informer are kept in strict confidence.

3.22 Audit examined the records of the reward scheme for the period 2011 to 2020 and noted the following:

- (a) ***Small number of intelligence reports from registered informers.*** From 2011 to 2020, 16 to 54 (averaging 29) intelligence reports were received from registered informers each year, accounting for 20% to 40% of all intelligence reports received;
- (b) ***Reward levels not revised for more than 20 years.*** The level of reward for cases leading to conviction was set in 1999 and had not been revised since then. For cases leading to successful seizure, the reward was based on the estimated market value of seized specimens. Audit examined the list of scheduled species commonly traded in the market maintained by AFCD and noted that the last revision to their estimated market values was made in 2002; and
- (c) ***Areas for improvement in reward calculation.*** According to the list of estimated market values of scheduled species, different market values have been set for different stages of life cycle of some species (e.g. adult or juvenile stage) and different forms of some specimens (e.g. whole piece, scrap or carved). Audit examined 10 cases with rewards calculated based on the list of estimated market values and noted that in 7 cases the rewards had been calculated based on the stage of life cycle of the seized specimen. However, in each of the 7 cases, the responsible officer did not document the bases for supporting the assessment on the stage of life cycle of the

Note 26: *According to AFCD, officials and paid staff of the Government and conservation-related NGOs are not entitled to any reward under the reward scheme.*

seized specimens (e.g. determining a specimen was in adult/juvenile stage according to its length, size or other biological characteristics).

3.23 The reward scheme was established in 1999 and AFCD has not conducted any review on the scheme since its establishment. In view of the Audit findings in paragraph 3.22, Audit considers that there is merit for AFCD to conduct a review on the reward scheme to evaluate its effectiveness and identify measures to improve the operation and attractiveness of the scheme.

Audit recommendations

3.24 Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:

- (a) **keep under review the number of intelligence reports received and explore measures to encourage more intelligence reports; and**
- (b) **consider conducting a review on the reward scheme to evaluate its effectiveness and identify measures to improve the operation and attractiveness of the scheme.**

Response from the Government

3.25 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that AFCD is conducting a review on the reward scheme to enhance its operation.

PART 4: OTHER RELATED ISSUES

4.1 This PART examines other issues relating to the control of trade in scheduled species by AFCD, focusing on the following areas:

- (a) custody and disposal of specimens (paras. 4.2 to 4.16);
- (b) Endangered Species Licensing and Enforcement System (paras. 4.17 to 4.20);
- (c) provision of training to frontline enforcement officers (paras. 4.21 to 4.24); and
- (d) publicity and education programmes (paras. 4.25 to 4.29).

Custody and disposal of specimens

4.2 *Custody of specimens.* Specimens of scheduled species seized during enforcement of PESAPO are kept under AFCD's custody. Specimens of scheduled species may also come under the custody of AFCD for other reasons (e.g. animals abandoned by owners and stray animals). According to ESPD operation manual:

- (a) live specimens are sent to appropriate care centres for temporary holding and care, as follows:
 - (i) live animals are sent to AFCD Animal Management Centres (Note 27);
 - (ii) live plants are sent to AFCD plant nursery; and

Note 27: *There are four Animal Management Centres located in different regions: one on the Hong Kong Island, and three in Kowloon, New Territories South and New Territories North respectively. Apart from live animals of scheduled species seized under PESAPO, the Animal Management Centres also handle stray animals, animals abandoned by owners, animals seized during enforcement of other ordinances, animals which have bitten a person and need to be observed in accordance with relevant ordinances, and animals under import quarantine.*

- (iii) under some circumstances, live specimens may also be sent to other appropriate NGOs with more suitable facilities.

Photograph 9 shows an example of a seized live animal kept in an AFCD Animal Management Centre; and

Photograph 9

**Example of a seized live animal kept in
an AFCD Animal Management Centre**



Source: AFCD records

- (b) dead specimens (including parts and derivatives) are kept in AFCD stores in office or off-site stores. For example, perishable dead specimens are kept in freezers in AFCD office or appropriate cold stores. Non-perishable dead specimens are kept in storerooms in AFCD office or off-site stores (depending on size and amount). Photograph 10 shows an example of seized timber kept in an off-site store.

Photograph 10

**Example of seized timber
kept in an off-site store**



Source: AFCD records

4.3 ***Disposal of specimens.*** AFCD may dispose of specimens of scheduled species seized and forfeited to the Government under PESAPO (see para. 1.15(c)) or surrendered by the owner to the Government (Note 28). According to ESPD operation manual (Note 29):

- (a) for live specimens, AFCD may:
 - (i) release the live animal locally to a suitable habitat subject to advice of veterinary officer that the animal is disease-free and fit for release;

Note 28: *Under some circumstances, owners of specimens of scheduled species may surrender the specimens to the Government (e.g. the recipient of parcel/consignment who did not cause the posting/shipment of the specimens, and the owner of live pet animals of scheduled species).*

Note 29: *According to AFCD, the guidelines for disposal of specimens of scheduled species in ESPD operation manual were prepared in accordance with CITES requirements.*

- (ii) return the live plant/animal to its country of export/origin or range state (Note 30) after consulting the relevant CITES Management Authority, and in case of live animals, subject to advice of veterinary officer that the animal is fit to travel;
 - (iii) keep the live plant/animal in captivity or send the plant/animal to a local or overseas captive facility (e.g. zoo, rescue centre and botanic garden) with suitable holding and caring facilities and personnel to keep the specimens for non-commercial purposes; and
 - (iv) euthanise the live animal if it is likely to die or be subject to unnecessary suffering for keeping it in captivity;
- (b) for dead specimens, AFCD may:
- (i) retain the specimens for education, publicity or training purposes;
 - (ii) donate the specimens to suitable organisations (including overseas organisations) for education or training purposes; and
 - (iii) dispose of the specimens in landfills or by other methods of destruction (e.g. incineration) as appropriate; and
- (c) every effort should be made in providing an acceptable holding facility and caring to any live specimens of Appendix I species, taking a balance between the potential conservation value of the species if kept alive in captivity and the level of care that can be provided.

***Need to review record keeping requirements
for specimens held and ready for disposal***

4.4 ***Records relating to specimens held.*** According to AFCD, information on specimens under AFCD's custody including the quantity, type, location and status

Note 30: *Under CITES, a range state is a state whose territory is within the natural range of distribution of a species.*

Other related issues

(e.g. whether it is forfeited to the Government) of specimens is kept in ESLES under individual cases. According to ESPD operation manual:

- (a) for live specimens:
 - (i) the responsible officer should keep a list of specimens held and keep in view the situation until the specimens are forfeited to the Government and prepare a list of specimens ready for disposal monthly; and
 - (ii) disposal exercise should be arranged every two months. The list of specimens ready for disposal should be forwarded to all potential recipients for expression of interest in receiving the specimens; and
- (b) for dead specimens:
 - (i) the responsible officer should prepare a summary on the quantities and types of specimens available for dumping; and
 - (ii) dumping exercise should be conducted every two months to remove those surplus specimens which are not suitable for donation or unlikely to find any recipients.

4.5 In February 2021, AFCD informed Audit that:

- (a) for live specimens, the responsible officer prepared the list of specimens held according to monthly returns submitted by care centres (see para. 4.6(a)(ii)). The list also served as a list of specimens ready for disposal (i.e. no separate list of specimens ready for disposal was prepared). Disposal exercises were conducted as needed (i.e. not regularly) and potential recipients were contacted as appropriate; and
- (b) for dead specimens, the responsible officer kept a summary on the quantities and types of specimens held. The summary was updated when an investigation and/or prosecution was completed and the seized specimens were ready for disposal. Dumping exercises were conducted as needed (i.e. not regularly).

Audit noted AFCD's current practice in keeping records of specimens held and ready for disposal. Audit considers that AFCD needs to review its record keeping requirements for specimens held and ready for disposal to assess whether the current practice effectively meets the requirements and update ESPD operation manual if necessary.

Need to maintain proper records on inspections of live specimens held and review stocktaking arrangements

4.6 ***Requirements on proper care of specimens held.*** Proper care shall be taken in handling specimens of scheduled species to ensure their safe custody. According to ESPD operation manual:

- (a) for live specimens:
 - (i) the responsible staff should arrange inspections of the animals and plants held in the care centres as well as the holding facilities whenever possible to ensure that proper care is provided; and
 - (ii) the care centres should provide monthly returns on the overall conditions (i.e. including the quantity) of the animals and plants under their custody; and
- (b) for dead specimens, an officer, independent of any procedures of handling seizures, should be appointed to conduct an annual stocktaking of the seized specimens. Results of the stocktaking should be reported to senior staff.

4.7 In February 2021, AFCD informed Audit that:

- (a) it conducted inspections to one of the care centres from time to time (as the care centre was also a keeping premises under PLs and exemption certificates). For other centres, whenever AFCD visited the centres for handling/taking over of specimens, it would take the opportunity to observe the animals and facilities;
- (b) the care centres submitted monthly returns to AFCD on the overall conditions of the animals and plants under their custody; and

- (c) the last stocktaking exercise on dead specimens was conducted in 2013. The exercise involved a random check on dead specimens in the storeroom in AFCD office. The annual stocktaking as required in ESPD operation manual was suspended due to manpower deployment.

Regarding live specimens, Audit noted that proper records had not been maintained for the inspections to most care centres (other than the inspections conducted under PLs and exemption certificates to one care centre). Regarding dead specimens, while noting the difficulties encountered by AFCD in conducting the annual stocktaking due to manpower deployment, Audit considers that AFCD should review whether its current stocktaking arrangements effectively meet the objective of ensuring proper custody of specimens and update as appropriate the relevant requirements in ESPD operation manual.

Need to continue to explore ways to dispose of forfeited timber

4.8 *Consultation with the Endangered Species Advisory Committee.* In December 2017, AFCD consulted the Endangered Species Advisory Committee (see para. 1.7) on various options to dispose of some 1,200 tonnes of timber seized and forfeited under PESAPO. According to a discussion paper of the Committee of November 2017, the possible disposal options included:

- (a) *Return to the state of export.* Return to the state of export was only feasible if the government of the state of export was strictly managed to avoid the returned specimens from re-entering the illegal market (Note 31). However, this option was often not feasible;
- (b) *Sale by auction.* Sale by auction of the forfeited timber might not fully comply with CITES provisions that the trade in the timber would not be detrimental to the survival of the species in the wild. There were also concerns that the timber stock might re-enter the commercial market and illegal trade might be further stimulated;

Note 31: *According to CITES guidelines, the disposal of dead specimens of Appendix I species is restricted for scientific, educational, enforcement or identification purposes. The disposal of dead specimens of Appendix II and Appendix III species should be in the best manner possible to achieve the purposes of CITES, and such disposal should not stimulate further illegal trade.*

- (c) ***Non-commercial uses.*** Possible non-commercial uses of the timber had been explored. Such uses might include using them as building materials for country park facilities, restoration of historical buildings, and production of musical instruments. However, the uses were highly selective depending on the properties and conditions of the timber specimens and whether there was a chance for the products re-entering the illegal market. It was estimated that about 4% of the total forfeited timber could be disposed of through this option; and
- (d) ***Destruction.*** Destruction was the last resort of disposal when other options were considered not feasible. This option avoided further illegal activities of the forfeited timber and could ensure that no financial or other gains would be received by the person responsible for the offence. It would also deliver a clear message to the local and international community that Hong Kong would not tolerate smuggling and illegal trading of scheduled species. Considering the large quantity of carbon dioxide emission if the timber was incinerated, dumping in landfills would be the only feasible destruction method.

4.9 ***Disposal options reported in 2019.*** In February and November 2019 (Note 32), AFCD informed the Endangered Species Advisory Committee that:

- (a) given the considerable cost of storage and likelihood of further accumulation of forfeited timber, AFCD took the view that the timber should be disposed of quickly; and
- (b) AFCD had been actively exploring ways of disposal in accordance with CITES disposal guidelines. Some of the forfeited timber had been donated for non-commercial uses such as construction, facilities enhancement, education and scientific research. AFCD would continue to identify suitable government departments and organisations for donating the timber.

4.10 ***Latest progress on disposal of forfeited timber.*** Upon enquiry, AFCD in January and February 2021 informed Audit that:

Note 32: *According to AFCD, no meeting had been held for the Endangered Species Advisory Committee since December 2019 due to the COVID-19 epidemic.*

Other related issues

- (a) as at 31 December 2020, AFCD was keeping some 913 tonnes of forfeited timber in storage containers;
- (b) from 2017 to 2020, 258 tonnes of forfeited timber were donated to various parties for non-commercial purposes, such as production of public facilities, restoration of historic buildings, education, scientific research and enforcement (Note 33);
- (c) since members of the Endangered Species Advisory Committee expressed concern on the destruction of the forfeited timber, AFCD did not have any destruction plan; and
- (d) the storage cost of the forfeited timber was \$1.85 million in 2020.

4.11 *Need to continue to explore disposal options.* In view of the size of the forfeited timber and the considerable cost of storage involved (see paras. 4.9(a) and 4.10(d)), Audit considers that AFCD needs to, in consultation with the Endangered Species Advisory Committee, continue to explore ways to dispose of the forfeited timber.

Room for improvement in the placement scheme of pet animals of scheduled species

4.12 *Placement scheme.* In June 2011, AFCD commenced a placement scheme of pet animals of scheduled species (hereinafter referred to as the placement scheme) with an NGO (NGO A). Under the placement scheme, NGO A is allowed to rehome pet animals of certain scheduled species donated by AFCD to suitable private individuals. In April 2014, another NGO (NGO B) joined the scheme.

4.13 *Operation and monitoring of the scheme.* In seeking support from the Endangered Species Advisory Committee for the placement scheme, AFCD informed the Committee in 2011 and 2014 that:

Note 33: *The receiving parties included government departments, NGOs, academic institutes and museums.*

- (a) the placement scheme helped shorten the time for disposal of the live animals and alleviate the burden of AFCD in accommodating them in limited local keeping facilities;
- (b) the rehomed animals would be restricted to Appendix II species that were already available in the pet market and of comparatively lower conservation value;
- (c) the NGOs would microchip (Note 34) the rehomed animals as far as practicable and provide regular reports to AFCD for monitoring. Transfer of the rehomed animals between individuals was not allowed; and
- (d) AFCD would monitor the scheme and evaluate its effectiveness, and the number and species of animals donated to the two NGOs under the scheme would be reported to the Committee regularly.

4.14 ***Room for improvement.*** The two NGOs reported the status of the animals transferred from AFCD for rehoming under the placement scheme and for temporary holding (Note 35) regularly. According to AFCD, it maintained close communication with the two NGOs to ensure that they were capable of accommodating the concerned animals. When there were suitable animals for donation, AFCD would check if the NGOs see any rehoming potential, conduct internal vetting and seek appropriate approval before each donation. Audit noted room for improvement in the placement scheme as follows:

- (a) ***Need to conduct regular visits to NGOs under the placement scheme.*** AFCD had not conducted regular visits to the NGOs under the placement scheme. According to AFCD, the risk of NGO A contravening PESAPO was low as it was a long-established organisation and pet adoption was one of the NGO's major programmes. Regular visits to NGO A were considered not necessary. Regarding NGO B:

Note 34: *A microchip is inserted under the skin of an animal's body. It carries a numeric code which can be read by a scanner. With the code, information about the animal and the keeper could be traced.*

Note 35: *AFCD has also transferred animals of scheduled species to the two NGOs for temporary holding (see para. 4.2(a)) before the animals are ready for donation.*

Other related issues

- (i) AFCD inspected from time to time the specimens of scheduled species held by NGO B under PLs and exemption certificates. Audit noted that in July 2017, AFCD inspected NGO B's facilities, and animals donated to and temporarily held by it. However, no regular inspections on the animals transferred to NGO B under the placement scheme or for temporary holding had been conducted; and
- (ii) in January 2018, 21 animals of common pet species (see para. 4.13(b)) transferred to NGO B were found missing. Remedial actions and security measures, including installation of security cameras and taking photographic records of each animal received, were taken by NGO B (Note 36).

In Audit's view, regular visits to an NGO under the placement scheme provide useful information for assessing whether the NGO continues to be suitable for receiving animals under the scheme and the animals transferred or under its custody are safe. In view of the incident mentioned in (ii) above, there is merit for AFCD to consider conducting regular visits to NGOs under the placement scheme;

- (b) *Need to report more information about the placement scheme to the Endangered Species Advisory Committee.* AFCD has agreed to report regularly information about the placement scheme to the Endangered Species Advisory Committee (see para. 4.13(d)). However, Audit noted that since January 2015, AFCD had not reported the number and species of live animals donated to each of the two NGOs under the placement scheme in the summary progress reports submitted to the Committee. Moreover, AFCD did not report the incident relating to NGO B as mentioned in (a)(ii) above to the Committee. In Audit's view, AFCD

Note 36: *According to AFCD, the missing animals were suspected to have been taken or swapped by one volunteer of NGO B and the case was reported to the Hong Kong Police Force for investigation. In January and March 2018, AFCD conducted inspections on the keeping and security facilities and a stock check on the animals transferred to NGO B for donation under the placement scheme and for temporary holding. AFCD reviewed the operation of the scheme and agreed with NGO B to implement certain remedial measures, including enhanced security measures, to prevent the recurrence of similar incidents. No similar incident had occurred since the implementation of the enhanced security measures.*

should regularly report more information about the placement scheme to the Committee for information and advice; and

- (c) ***Need to conduct an evaluation on the placement scheme.*** In January and March 2018, after some animals were found missing from NGO B's premises, AFCD conducted inspections and stock checks, reviewed the operation of the scheme with NGO B, and requested NGO B to implement measures to prevent the recurrence of similar incidents (see (a)(ii) above). Nevertheless, Audit noted that since the implementation of the placement scheme in June 2011 with NGO A and April 2014 with NGO B, AFCD had not conducted any overall evaluation on the scheme's effectiveness. Audit considers that AFCD needs to consider conducting an overall evaluation on the effectiveness and operation of the placement scheme.

Audit recommendations

4.15 Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:

- (a) **review AFCD's record keeping requirements for specimens held and ready for disposal to assess whether the current practice effectively meets the requirements and update ESPD operation manual if necessary;**
- (b) **maintain proper records on inspections to care centres;**
- (c) **review whether AFCD's current stocktaking arrangements effectively meet the objective of ensuring proper custody of specimens and update as appropriate the relevant requirements in ESPD operation manual;**
- (d) **in consultation with the Endangered Species Advisory Committee, continue to explore ways to dispose of the forfeited timber; and**
- (e) **for the placement scheme of pet animals of scheduled species:**
 - (i) **consider conducting regular visits to the NGOs under the scheme;**

- (ii) regularly report more information about the scheme to the Endangered Species Advisory Committee; and
- (iii) consider conducting an overall evaluation on the effectiveness and operation of the scheme.

Response from the Government

4.16 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that:

- (a) AFCD is conducting a review on its practices on keeping stock records of specimens under its custody;
- (b) inspections to care centres and NGOs under the placement scheme will be enhanced and some inspections have already been scheduled; and
- (c) an overall evaluation of the placement scheme will be conducted and reported to the Endangered Species Advisory Committee in its next meeting.

Endangered Species Licensing and Enforcement System

4.17 *Functions of ESLES.* According to AFCD, ESLES supports ESPD's operations in handling applications and issuance of licences/certificates, recording inspection results, tracking enforcement records, and maintaining intelligence information. It can also generate management reports, statistics and summaries on licensing, inspection and enforcement work based on different criteria specified (e.g. number of licences issued, and inspection and prosecution statistics). The system was launched in 2003 and revamped in 2015 (Note 37).

Note 37: *The revamp in 2015 involved software update, and enhancement to the licensing and reporting modules to improve efficiency of the licence processing and reporting capability. The total expenditure of the revamp project was \$7.7 million.*

4.18 ***Deficiencies in ESLES.*** Audit noted that in certain circumstances, the management reports generated from ESLES were inadequate and AFCD officers needed to keep operation statistics separately for reporting purposes. Examples include:

- (a) the report on the number of consignment inspections conducted generated from ESLES could not be used directly for management reporting. Upon enquiry, AFCD in December 2020 informed Audit that the number of inspections conducted by the Import and Export Division had to be counted manually for inclusion in the management report;
- (b) the report on information provided by registered informers under the reward scheme generated from ESLES was incorrect. Upon enquiry, AFCD in January 2021 informed Audit that there were system bugs in ESLES leading to the generation of incorrect reports; and
- (c) the report on specimens seized generated from ESLES did not include a summary on the quantity and types of specimens seized. For instance, the report showed several entries of the quantity of a particular species and AFCD officers needed to group and re-calculate the actual quantity of that species manually.

Audit recommendation

4.19 **Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should consider conducting a review on the effectiveness of ESLES, in particular the report generating functions, with a view to enhancing its effectiveness in supporting AFCD's work relating to control of trade in scheduled species.**

Response from the Government

4.20 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendation. He has said that AFCD is working with its information technology team to enhance the functions of ESLES in supporting the work in control of trade in scheduled species.

Provision of training to frontline enforcement officers

Need to ensure that adequate training is provided to frontline enforcement officers

4.21 AFCD has been providing various training courses to its frontline enforcement officers (including ESPD officers and officers of the Import and Export Division) in relation to enforcement of PESAPO, including identification of scheduled species and updates of CITES requirements resulting from CITES meetings (see para. 1.4). Audit noted that:

- (a) AFCD did not set any training target for officers involved in frontline enforcement of PESAPO;
- (b) as at 31 December 2020, 30 of the 48 ESPD staff (see para. 1.18) were involved in frontline enforcement of PESAPO (Note 38):
 - (i) while 24 of the 30 frontline officers had attended relevant training courses in the last five years from 2016 to 2020, 15 (63%) of them attended 0.5 to 1 day of training each year on average and 2 of them had not attended any relevant training courses since 2019; and
 - (ii) 6 of the 30 frontline officers were posted to ESPD between June and December 2020 and had not attended any relevant training courses due to the COVID-19 epidemic; and
- (c) as at 31 December 2020, of the 27 officers from the Import and Export Division involved in frontline enforcement of PESAPO:
 - (i) 19 had attended relevant training courses in the last five years from 2016 to 2020;
 - (ii) 3 attended relevant training courses in 1999, 2001 and 2006 respectively; and

Note 38: *According to AFCD, the remaining 18 (48 less 30) staff are either officers with the necessary knowledge in implementation of CITES requirements and species identification or administrative staff who do not require the knowledge.*

- (iii) 5 were posted to the Division between September 2013 and October 2020 and had not attended any relevant training courses.

4.22 According to AFCD, training courses are provided to frontline enforcement officers based on operational needs. Since CITES requirements and the list of CITES species may be updated every two to three years as a result of CITES meetings (see para. 1.4), in Audit's view, regular training to frontline enforcement officers in relation to updated CITES requirements (including identification of scheduled species) would help enhance and refresh the officers' knowledge in enforcing PESAPO. Audit considers that AFCD needs to consider setting appropriate training targets for frontline enforcement officers and take measures to ensure that adequate training is provided to frontline enforcement officers to enhance and refresh their knowledge in relation to PESAPO.

Audit recommendations

4.23 **Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should:**

- (a) **consider setting appropriate training targets for frontline enforcement officers; and**
- (b) **take measures to ensure that adequate training is provided to frontline enforcement officers to enhance and refresh their knowledge in relation to PESAPO.**

Response from the Government

4.24 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendations. He has said that AFCD is conducting a review on the relevant training programme to its frontline enforcement officers.

Publicity and education programmes

4.25 AFCD conducts various publicity and education programmes to:

Other related issues

- (a) raise public awareness about scheduled species protection and promote sustainable use of natural resources;
- (b) publicise the measures that govern the import, export and possession of scheduled species and the rationale behind;
- (c) keep traders and the general public informed of the current scope of legislative control to remind them to comply with the law; and
- (d) collect direct feedbacks and views from traders and the public which enable a timely response to their needs.

Table 6 shows the key publicity and education programmes conducted from 2016 to 2020.

Table 6

**Key publicity and education programmes
(2016 to 2020)**

Key programme	2016	2017	2018	2019	2020
	Number				
ESRC guided tours	383	423	397	380	21
School talks	76	56	54	46	16
Public seminars	2	4	3	6	0
Traders consultation sessions	2	1	4	7	0
Training courses to professional bodies	0	0	2	3	1
Training courses to local/non-local government officers	1	10	6	6	3
Exhibitions	32	22	24	24	6

Source: AFCD records

Need to continue to explore the use of electronic means in delivering publicity and education programmes

4.26 As shown in Table 6 in paragraph 4.25, the number of publicity and education programmes decreased significantly in 2020. Besides, Audit also noted increases in the cancellation rate:

- (a) for ESRC guided tours, from 10% in 2019 to 93% in 2020; and
- (b) for school talks and public seminars, from 2% in 2019 to 79% in 2020.

According to AFCD, the decreases in number of publicity and education programmes and the increases in cancellation rates were due to the COVID-19 epidemic in 2020. To cope with the high cancellation rate in 2020, 3 online talks were conducted by AFCD for students (2 for students in tertiary institutions and 1 for students in a primary school) in April and December 2020.

4.27 Upon enquiry on the merit of organising virtual tours to ESRC and more online talks/seminars, AFCD in February 2021 informed Audit that:

- (a) ESRC was unique with its collection of large number of rare exhibits. From the perspective of educational effectiveness, the interactive experience with real specimens was not replaceable by electronic means (e.g. virtual tours to ESRC);
- (b) it was important for AFCD to interact with visitors to ESRC and participants of school talks and public seminars to arouse their interest, gauge what they had learned and collect feedbacks; and
- (c) in view of the imminent resumption of public services and availability of vaccines, AFCD would resume ESRC guided tours soon.

As there may continue to be a need to maintain social distancing amid the COVID-19 epidemic, the use of electronic means to convey messages on scheduled species protection should continue to be explored.

Audit recommendation

4.28 **Audit has *recommended* that the Director of Agriculture, Fisheries and Conservation should continue to explore the use of electronic means in delivering the publicity and education programmes on scheduled species protection.**

Response from the Government

4.29 The Director of Agriculture, Fisheries and Conservation generally agrees with the audit recommendation. He has said that AFCD will continue to explore appropriate electronic means in delivering the publicity and education programmes on scheduled species protection apart from conducting guided tours.

**Licensing requirements under
the Protection of Endangered Species of Animals and Plants Ordinance
(31 December 2020)**

Species	Type of specimen	Requirement for a licence		
		Import or introduce from the sea	Export or re-export	Possess
Appendix I (Note 1)	All (Note 2)	✓ (Note 3)	✓	✓
Appendix II	Live specimen of wild origin	✓ (Note 3)	✓	✓
	Live specimen not of wild origin	✗ (Note 3 or 4)	✓ (Note 6)	✗ (Note 7)
	Parts or derivatives	✗ (Note 3 or 4)	✓ (Note 6)	✗
Appendix III	All	✗ (Note 3, 4 or 5)	✓	✗

Source: Audit analysis of AFCD records

Note 1: According to AFCD, it generally does not issue a licence for specimens of Appendix I species of wild origin for commercial purposes. A licence may only be issued under certain circumstances in accordance with CITES (e.g. for scientific and educational purposes).

Note 2: Appendix I animals bred in captivity for commercial purposes from CITES registered captive-breeding operations and Appendix I plants artificially propagated for commercial purposes are treated as Appendix II specimens and subject to the same control as Appendix II specimens of wild origin.

Note 3: Production of a valid export permit issued by the relevant authority of the place from which the specimen is imported is required.

Note 4: Production of a valid certificate of captive breeding (for animals) or of artificial propagation (for plants) issued by the relevant authority of the place from which the specimen is imported is required.

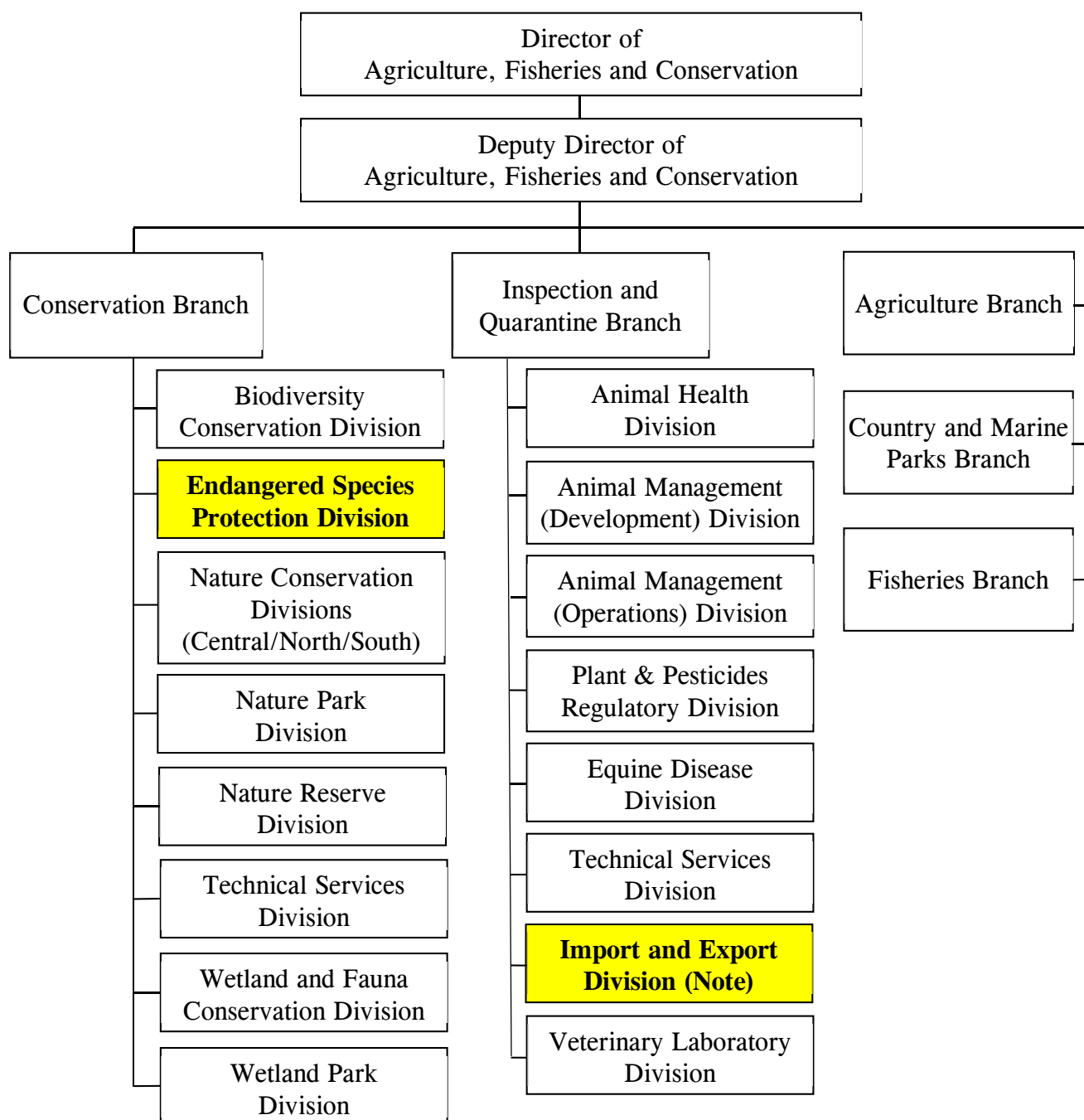
Note 5: Production of a valid certificate of origin issued by the relevant authority of the place from which the specimen is imported is required.

Note 6: In lieu of an export licence issued under PESAPO, a phytosanitary certificate issued under the Plant (Importation and Pest Control) Ordinance (Cap.207) may be used for the export of specimens of artificially propagated plants.

Note 7: This is subject to the production of documentary evidence or otherwise that the specimen is not of wild origin.

Remarks: Hong Kong has adopted stricter measures banning the import and re-export of elephant hunting trophies and all elephant ivory and its products (except antique ivory), except in certain circumstances in accordance with PESAPO.

**Agriculture, Fisheries and Conservation Department:
Organisation chart (extract)
(31 December 2020)**



Legend: Divisions with staff involved in control of trade in scheduled species

Source: AFCD records

Note: The Import and Export Division under the Inspection and Quarantine Branch of AFCD handles, along with other inspection and quarantine duties, consignment inspections of scheduled species at airport and land-based control points.

Acronyms and abbreviations

AFCD	Agriculture, Fisheries and Conservation Department
Audit	Audit Commission
C&ED	Customs and Excise Department
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DNA	Deoxyribonucleic acid
EL	Export licence
ESLES	Endangered Species Licensing and Enforcement System
ESPD	Endangered Species Protection Division
ESRC	Endangered Species Resource Centre
IL	Import licence
NGOs	Non-governmental organisations
PESAPO	Protection of Endangered Species of Animals and Plants Ordinance
PL	Possession licence
RL	Re-export licence

CHAPTER 4

Innovation and Technology Bureau Innovation and Technology Commission

**Innovation and Technology Commission:
Efforts in promoting internationally accepted
standards and conformity assessment services**

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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INNOVATION AND TECHNOLOGY COMMISSION: EFFORTS IN PROMOTING INTERNATIONALLY ACCEPTED STANDARDS AND CONFORMITY ASSESSMENT SERVICES

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INNOVATION AND TECHNOLOGY COMMISSION: EFFORTS IN PROMOTING INTERNATIONALLY ACCEPTED STANDARDS AND CONFORMITY ASSESSMENT SERVICES

Executive Summary

1. The Innovation and Technology Commission (ITC) promotes internationally accepted standards and conformity assessment services to underpin technological development and international trade, and the development of the testing and certification (T&C) industry in Hong Kong under its programme area “Quality Support”. Standards are consensus of doing things, specifications for products, test methods or materials. Conformity assessment involves a set of processes which demonstrate that specific requirements relating to a product, process, system, person or body are fulfilled. The main types of conformity assessment are testing, inspection and certification. A body that performs conformity assessment services is referred to as a conformity assessment body (CAB). In September 2009, the Government set up the Hong Kong Council for Testing and Certification (HKCTC) to advise it on the overall development strategies of the T&C industry.

2. The work of ITC relating to quality support is carried out by the Hong Kong Accreditation Service (HKAS), the Product Standards Information Bureau (PSIB), the Standards and Calibration Laboratory (SCL) and the Secretariat of HKCTC. In 2019-20, the expenditure on the programme area “Quality Support” was \$145.5 million. The Audit Commission (Audit) has recently conducted a review on ITC’s efforts in promoting internationally accepted standards and conformity assessment services.

Hong Kong Accreditation Service

3. *Need to step up efforts to promote accreditation services of HKAS.* HKAS sets a benchmark on the net increase in accredited organisations each year. For three of the five years from 2015-16 to 2019-20, the benchmark set had not been met. As

Executive Summary

at 31 December 2020, for some programmes of the three accreditation schemes of HKAS, the number of organisations accredited was not more than two. Such programmes comprised: (a) 3 (17%) of the 18 programmes under the Hong Kong Laboratory Accreditation Scheme (HOKLAS); (b) 4 (44%) of the 9 programmes under the Hong Kong Certification Body Accreditation Scheme; and (c) 2 (50%) of the 4 programmes under the Hong Kong Inspection Body Accreditation Scheme (paras. 2.6 and 2.8).

4. ***Need to encourage bureaux/departments to use services of HKAS and its accredited organisations.*** According to General Circular No. 16/2016 issued by the Director of Administration in February 2016, government bureaux/departments (B/Ds) were urged to use the accreditation services provided by HKAS and the conformity assessment services provided by organisations accredited by HKAS. Audit noted that in the period from 2016 to January 2021, only two new accreditations were granted to B/Ds. For two B/Ds that terminated their accreditations during the period, HKAS had not recorded the reasons for the terminations and whether follow-up actions had been taken to encourage them to retain the accreditation status (paras. 2.11 and 2.13).

5. ***Reassessments not conducted in a timely manner.*** HKAS conducts reassessments for each accredited organisation regularly to ensure that the standards required for continued accreditation are maintained. Audit reviewed 20 reassessments conducted by HKAS in the period from 2016 to 2019 and noted that 2 (10%) of the 20 reassessments were delayed for 28 days and 37 days respectively. As at 14 October 2020, there were 40 outstanding reassessments with delays, ranging from 7 to 651 days (93 days on average) (paras. 2.18 to 2.20).

6. ***Improper use of HKAS symbols and false claims of accreditation status.*** Every accredited organisation is given a unique accreditation symbol. In November 2020, Audit examined the websites of 15 of the 21 accredited organisations under HOKLAS that terminated the accreditations for all or part of their accredited activities in 2019. Audit noted that: (a) 1 (7%) organisation with the accreditations on all accredited activities terminated still claimed that its laboratories were accredited and displayed HKAS symbol; (b) 1 (7%) organisation with the accreditations on some activities terminated still claimed that its laboratories were accredited for these activities; and (c) 2 (13%) organisations with the accreditations on some of their activities terminated did not include a statement indicating which activities were not accredited, contrary to the requirements of HKAS (paras. 2.23 and 2.25).

Product Standards Information Bureau and Standards and Calibration Laboratory

7. ***Low utilisation of Product Standards Resource Centre (PSRC).*** PSRC maintains a repository of standards and standard-related publications for public reference. Audit reviewed the number of visitors to PSRC in the period from 2015 to 2020 (up to September) and noted that the number of visitors to PSRC decreased by 10 (58.8%) from 17 in 2015 to 7 in 2019. There were only 4 visitors to PSRC in 2020 (up to September) amid the outbreak of coronavirus disease (COVID-19) (paras. 3.4 and 3.5).

8. ***Room for improvement in PSIB's inventory management.*** Audit found room for improvement in inventory management for the standards and publications kept in PSRC: (a) PSIB had not maintained inventory records for some inventory items and had not conducted annual inventory checks, contrary to the Stores and Procurement Regulations (SPRs) of the Government; and (b) PSIB had not devised a mechanism to determine which withdrawn/superseded standards had no reference value and should be disposed of. Some standards kept in PSRC were issued a long time ago and had been withdrawn or superseded by an updated version (para. 3.8).

9. ***Room for improvement in performance reporting in Controlling Officer's Report (COR).*** ITC reports in its CORs the performance of PSIB under four targets and five indicators. Audit found that: (a) there was no evidence showing that the reported performance for "Processing of simple enquiries on product standards" and "Processing of complicated enquiries on product standards" for 2015, 2016 and 2017 was based on proper records of actual performance; (b) while PSIB did not receive any complicated enquiries in 2018 and 2019, ITC reported that it took 8 working days for "Processing of complicated enquiries on product standards"; (c) no performance records were kept to substantiate the actual performance for "Issue of quotations for standards" and "Processing of orders for licensed reproduction of standards" reported for the period from 2015 to 2019; and (d) for sales of standards, some performance information on 2 of the 4 performance indicators, namely "Number of orders placed" for 2015 and 2017 to 2019 and "Revenue generated" for 2015, 2017 and 2018 reported in CORs did not tally with PSIB records (paras. 3.10, 3.11 and 3.13).

10. ***Room for improvement in SCL's inventory management.*** SCL operates ten laboratories with various types of equipment, parts and tools. Audit found room for improvement in its inventory management: (a) in 2012, the Government Logistics

Executive Summary

Department (GLD) recommended ITC to conduct a comprehensive inventory check for all inventory items kept in the Quality Services Division. As at February 2021, the implementation of GLD's recommendation had not been completed; (b) there was no documentary evidence showing that in the period from 2016 to 2020, ITC had conducted annual inventory checks for the inventory items of SCL, contrary to the requirements of SPRs; and (c) of the 40 inventory items examined by Audit, 17 (42.5%) were not labelled with a reference number and it was not possible to match the physical items to the Inventory Sheet and Distribution Records (GF 272s), and 5 (12.5%) had been transferred from one SCL laboratory to another without updating the Inventory Sheet and Distribution Records to reflect the transfers (para. 3.18).

11. ***Equipment not calibrated in a timely manner.*** According to SCL, after being put into service, equipment must be calibrated according to the planned schedule. Every month, SCL staff generate a calibration list for each laboratory from its computer system to identify equipment items that are due for calibration. According to the calibration list, as at 5 January 2021, 1,141 equipment items required regular calibration. Audit noted that: (a) 381 (33.4%) of the 1,141 equipment items had been overdue for calibration, with an average overdue period of 0.9 year (i.e. 331.8 days); and (b) of the 381 items, 127 (33.3%) had been overdue for more than one year, including 25 (6.6%) which had been overdue for more than 3 years. The longest overdue period was 7.3 years. According to ITC, 245 of the 381 items were backup equipment items or out-of-service equipment items (paras. 3.20 to 3.22).

12. ***Need to shorten the time for collecting equipment from customers for calibration.*** The queuing time for calibration is the time between the acceptance of quotation by the customer and the collection of equipment by SCL for calibration. According to SCL, in general, the queuing time shall not be longer than 15 working days. Of the 7,039 equipment items calibrated in the period from 2015 to 2020, 4,162 (59.1%) had queuing time longer than 15 working days, including 892 (12.7%) which had queuing time longer than 90 working days (averaging 166 working days). The longest queuing time was 827 working days (paras. 3.24 and 3.25).

Support for Hong Kong Council for Testing and Certification

13. ***Need to improve attendance of some non-official members.*** The Chairman and members of HKCTC comprise practitioners from the T&C sector, business sector, professional organisations (i.e. non-official members) and representatives of

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public bodies and government departments (i.e. official members). In the period from 2016 to 2020, while the overall attendance rate of council meetings for each year ranged from 75% to 85%, the attendance rate of non-official members was lower (ranging from 67% to 80%). In the period from 2016 to 2019, in each year, a significant percentage (12% to 35%) of the non-official members did not attend any council meetings or only attended one of the three council meetings held. In 3 of the 4 years in the period, less than half (38% to 47%) of the non-official members attended all the three council meetings held (paras. 4.4 to 4.6).

14. ***Need to improve declaration of interests in council meetings.*** HKCTC has adopted the one-tier reporting system (i.e. disclosing potential conflicts of interest when they arise) for declaration of interests by members. Under the exhibition programmes of HKCTC, booths were set up at trade shows to promote Hong Kong's T&C services. The rental and production costs of the booths were paid by HKCTC and eligible accredited CABs were invited to apply to use the booths free of charge to reach out to potential users of their services. Audit noted that in the period from 2016 to 2020, 50% to 71% of the non-official council members were associated with CABs in Hong Kong. These CABs were potential participants of the exhibition programmes. However, Audit noted that no declarations of interests had been made by the members concerned when the work plans for the exhibition programmes were discussed and endorsed in council meetings. In the period from 2016-17 to 2019-20, 11% to 50% of the participants of the exhibition programmes were CABs associated with council members (paras. 4.9 to 4.11).

15. ***Need to issue draft minutes of council meetings in a timely manner.*** Audit examined the draft minutes of the 14 council meetings held in the period from 2016 to 2020 and noted that the Secretariat of HKCTC took 43 to 90 days (averaging 66 days) to issue the draft meeting minutes to members (para. 4.14).

16. ***Need to step up efforts to promote the teaching kit launched.*** In June 2016, HKCTC launched a teaching kit for senior secondary chemistry teachers to arouse students' interest in testing and to help apprise students of the value of T&C. A survey conducted in 2017 revealed that of the 75 respondents: (a) 51 (68%) had not heard about the teaching kit; (b) 68 (91%) had never used the teaching kit in class or school activities; and (c) 70 (93%) did not know that the teaching kit was available on the One-stop Portal for Learning and Teaching Resources (paras. 4.19 and 4.21).

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17. *Need to enhance attendance of seminars and workshops.* In the period from 2015 to 2020, HKCTC organised 48 seminars and workshops for T&C practitioners. Audit noted that the percentage of no-shows ranged from 15.7% to 22% and only 8,969 (81.1%) of the 11,053 enrolled participants attended the seminars and workshops (paras. 4.24 and 4.25).

18. *Need to encourage participation in exhibition programmes.* In the period from 2016-17 to 2019-20, HKCTC participated in 10 local trade shows and 8 Mainland and overseas trade shows under its exhibition programmes, with a total cost of \$1.5 million. Audit noted that: (a) in each trade show, while the Secretariat of HKCTC invited over 300 CABs to participate, only a handful (2 to 5) of CABs applied for participation in the trade show; and (b) during the period, only 12 CABs participated in one or more trade shows (paras. 4.28 and 4.29).

Way forward

19. *Need to step up efforts to promote new accreditation services to help fight COVID-19.* Since April 2020, in response to the strong demand for testing services related to COVID-19, HKAS has launched two new accreditation services under HOKLAS, namely medical face mask testing and COVID-19 reverse transcription-polymerase chain reaction (RT-PCR) testing. Audit noted that up to 28 February 2021: (a) only two accreditation applications had been received from CABs for medical face masks, and no accreditation had been granted; and (b) only 5 (22%) of the 23 local COVID-19 RT-PCR testing institutions in the private sector recognised by the Government had obtained HKAS accreditation for COVID-19 RT-PCR testing (paras. 5.5 and 5.6).

20. *Need to devise measures to facilitate further development of the T&C industry.* In March 2010, HKCTC submitted a report to the Chief Executive of the Hong Kong Special Administrative Region and made 26 recommendations to enhance the competitiveness of the T&C industry. In March 2013, HKCTC completed a review of the implementation progress of the recommendations made in 2010. According to the report, all recommendations made in 2010 had been implemented. The 2013 report made further recommendations to support the development of the industry. Since 2013, there have been developments pertinent to the T&C industry. Audit considers that ITC needs to, in collaboration with the Innovation and Technology Bureau and taking on board the observations and recommendations in this Audit Report, continue to engage HKCTC and other stakeholders in the T&C industry

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with a view to devising appropriate measures to facilitate the industry in grasping new opportunities for development (paras. 5.11 and 5.12).

Audit recommendations

21. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Commissioner for Innovation and Technology should:**

HKAS

- (a) **before launching new accreditation programmes, conduct thorough assessments on the market demand (para. 2.15(a));**
- (b) **step up efforts in promoting the three accreditation schemes of HKAS (para. 2.15(b));**
- (c) **step up efforts in promoting to B/Ds the services of HKAS and services of organisations accredited by HKAS (para. 2.15(c));**
- (d) **ensure that the reassessments for accredited organisations are conducted in a timely manner (para. 2.27(a));**
- (e) **ensure proper use of HKAS symbols and proper claims of accreditation status (para. 2.27(b));**

PSIB and SCL

- (f) **review the need for maintaining PSRC (para. 3.15(a));**
- (g) **maintain proper inventory records for all inventory items kept in PSRC and conduct inventory checks according to the requirements of SPRs (para. 3.15(b));**
- (h) **devise an effective mechanism on disposal of outdated standards and publications in PSRC (para. 3.15(c));**

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- (i) **maintain proper performance records on PSIB's sales of standards and ensure that information on performance of PSIB reported in COR is accurate and is substantiated by proper performance records (para. 3.15(d) and (e));**
- (j) **complete the implementation of the recommendation of GLD on inventory management as soon as practicable (para. 3.28(a));**
- (k) **conduct inventory checks on inventory items of SCL according to the requirements stipulated in SPRs and ensure the accuracy of inventory records (para. 3.28(b));**
- (l) **ensure that the equipment of SCL is calibrated in a timely manner (para. 3.28(c));**
- (m) **take necessary actions to address the issue of long queuing time (para. 3.28(d));**

Support for HKCTC

- (n) **encourage and facilitate non-official members' attendance at council meetings (para. 4.16(a));**
- (o) **ensure that potential conflicts of interest of members are declared in council meetings (para. 4.16(b));**
- (p) **ensure that the draft minutes of council meetings are issued to members for comments as soon as possible (para. 4.16(c));**
- (q) **promote the teaching kit on chemical testing to secondary schools (para. 4.30(a));**
- (r) **encourage the enrolled participants to attend the seminars and workshops organised for T&C practitioners (para. 4.30(b));**
- (s) **enhance CABs' interest in the exhibition programmes launched to promote Hong Kong's T&C services and boost their participation (para. 4.30(c));**

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Way forward

- (t) **promote HKAS accreditation services for the testing of medical face masks and COVID-19 (para. 5.8); and**
- (u) **continue to engage HKCTC and other stakeholders in the T&C industry with a view to devising appropriate measures to facilitate the industry in grasping new opportunities for development (para. 5.13).**

Response from the Government

22. The Commissioner for Innovation and Technology agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 The Innovation and Technology Commission (ITC) promotes internationally accepted standards and conformity assessment services to underpin technological development and international trade, and the development of the testing and certification (T&C) industry in Hong Kong.

Internationally accepted standards

1.3 Standards are consensus of doing things, specifications for products, test methods or materials. They can be as simple as sets of guidelines, codes of practices and ways of delivering services. Promoting internationally accepted standards is important because they can:

- (a) facilitate trade by removing trade barriers;
- (b) assure product safety for health and environmental protection; and
- (c) promote interoperability of products and services to ensure exchange of information securely and productively.

1.4 Examples of international standard publishers include:

- (a) ***International Organization for Standardization (ISO)***. ISO is an independent, non-governmental international organisation comprising a membership base of over 160 national standards bodies. It brings together experts from all over the world to develop International Standards;

- (b) **International Electrotechnical Commission (IEC).** IEC is a global, non-profit-making organisation, whose work underpins quality infrastructure and international trade in electrical and electronic goods; and
- (c) **International Telecommunication Union.** International Telecommunication Union is the United Nations specialised agency for information and communication technologies. It develops technical standards to ensure that networks and technologies are seamlessly interconnected.

Conformity assessment services

1.5 Conformity assessment involves a set of processes which demonstrate that specific requirements relating to a product, process, system, person or body are fulfilled. The main types of conformity assessment are:

- (a) **Testing.** Testing is the determination of one or more characteristics of an object according to a procedure. It can be performed by the object owner, a party interested in the object (e.g. a buyer/user) or an independent third party. Examples of testing are:
 - (i) testing of colour fastness of textiles and garments; and
 - (ii) testing for heavy metal contents in food samples;
- (b) **Inspection.** Inspection is the examination of a product design, product, process or installation and determination of its conformity to specific or general requirements on the basis of professional judgement. It can be performed by the object owner, a party interested in the object (e.g. a buyer/user) or an independent third party. Examples of inspection are:
 - (i) inspection of products at the factory before shipment to determine whether they comply with the buyer's specifications; and
 - (ii) inspection of structural welds to determine whether they meet the contractual and statutory requirements; and

- (c) **Certification.** Certification is the provision of written assurance (a certificate) by an independent third-party that the product, process, system or person fulfils specified requirements. A certification process may involve testing and/or inspection procedures. For certification, the assurance provided is in general valid for the period of time stated in the certificate (there is usually no “expiry date” for a test or for an inspection report). There are two major categories of certification activities:
- (i) **Management system certification.** There are various international standards on good management practice. Organisations seek certification to prove that they comply with these international standards, e.g. certification of an organisation’s compliance with the requirements for a quality management system under ISO 9001 (Note 1); and
 - (ii) **Product certification.** A certification body conducts evaluation on the product manufacturer in accordance with the specifications, and may issue a certificate to confirm that a product of a supplier satisfies the requirements set out in the specified certification scheme, e.g. certification of a mobile phone’s compliance with regulatory requirements.

A body (e.g. a testing laboratory, an inspection body or a certification body) that performs conformity assessment services is referred to as a conformity assessment body (CAB).

The T&C industry

1.6 The T&C industry plays an important role in supporting Hong Kong’s external trade and contributes to economic development. It provides assurance on the safety and quality of a wide range of products, and ensures that the products comply with international standards and regional standards through conformity assessment services.

Note 1: *ISO 9001 is issued by ISO. It specifies the requirements for a quality management system.*

Introduction

1.7 In October 2008, the Chief Executive of the Hong Kong Special Administrative Region (CE) established the Task Force on Economic Challenges (TFEC) to monitor and assess the impact of the 2008 financial tsunami on local and global markets. TFEC had identified T&C as one of the six economic areas where Hong Kong enjoys clear advantages and has good potential for further development (Note 2). TFEC recommended the Government to:

- (a) establish a Hong Kong Council for Testing and Certification (HKCTC) to enhance professional standards and recognition of T&C industry in the international arena, and explore more business opportunities;
- (b) continue to provide more business opportunities for private laboratories, for example, by increasing outsourcing of food tests to complement new legislation, and encourage the Chinese medicine trade to monitor the quality of Chinese medicine products by conducting basic tests on such products on a regular basis;
- (c) promote Hong Kong T&C services in the Mainland and overseas through the Hong Kong Productivity Council, the Hong Kong Trade Development Council and the Government's Economic and Trade Offices;
- (d) pursue discussions with the Mainland authorities through the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA) to seek their agreement to recognise the testing reports of Hong Kong accredited laboratories; and
- (e) strengthen vocational training programmes for the industry.

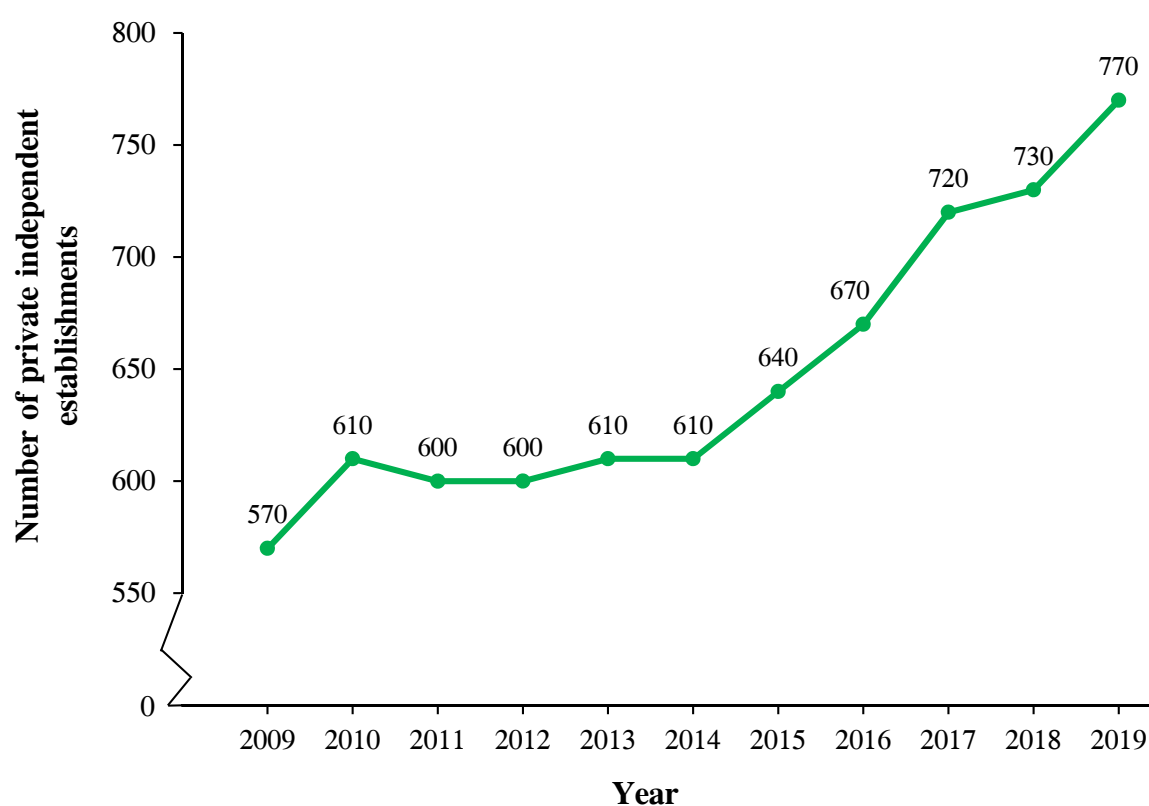
1.8 The Government accepted the recommendations of TFEC and set up HKCTC in September 2009 to advise it on the overall development strategy of the T&C industry. Since the establishment of HKCTC in 2009 and up to 2019, the number of private independent establishments in the T&C industry increased by 200 (35%)

Note 2: *The six economic areas are: (a) medical services; (b) environmental industries; (c) T&C; (d) education services; (e) innovation and technology; and (f) cultural and creative industries.*

from 570 in 2009 to 770 in 2019 (see Figure 1). In the same period, the total number of persons engaged in these establishments increased by 2,110 (17%) from 12,680 in 2009 to 14,790 in 2019 (see Figure 2) (Note 3). In 2019, the total business receipts of these private independent establishments amounted to \$14.9 billion.

Figure 1

**Number of private independent establishments in the T&C industry
(2009 to 2019)**



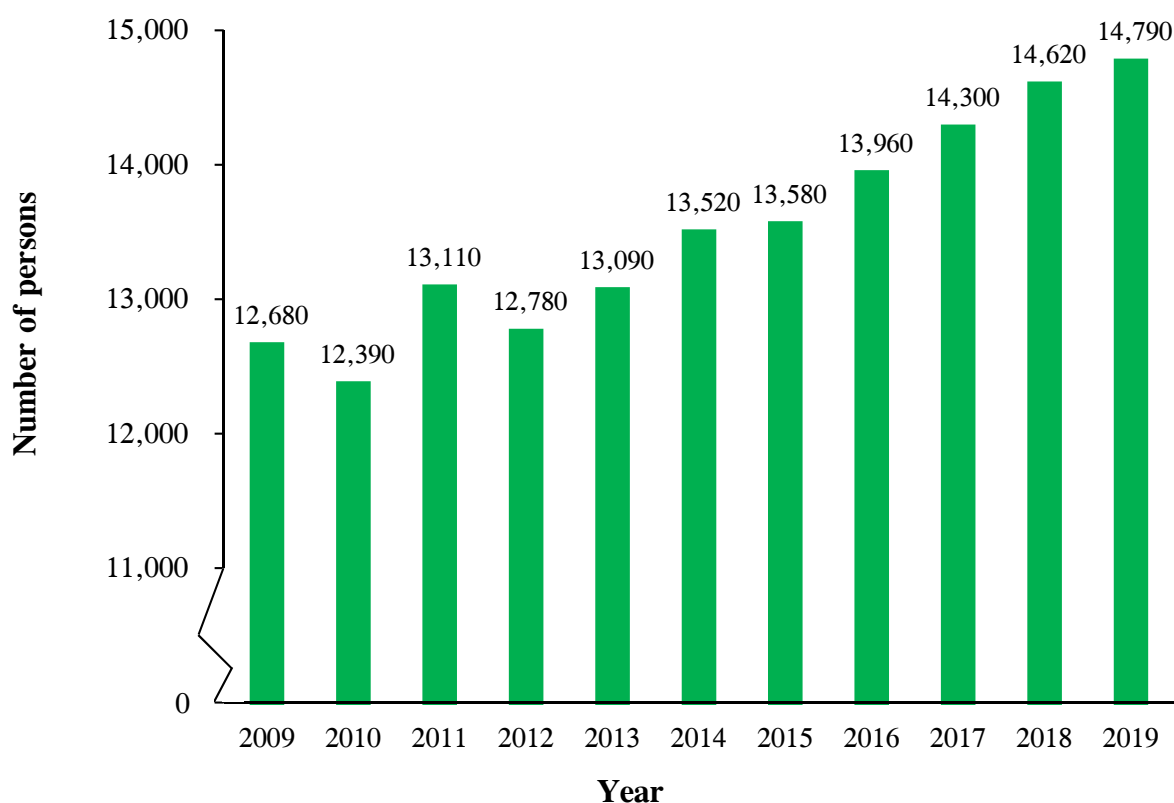
Source: Audit analysis of Census and Statistics Department records

Remarks: Up to March 2021, information on the number of private independent establishments in the T&C industry for 2020 was not yet available.

Note 3: Up to March 2021, information on the number of private independent establishments in the T&C industry and the number of persons engaged for 2020 was not yet available.

Figure 2

Number of persons engaged in the private independent establishments in the T&C industry (2009 to 2019)



Source: Audit analysis of Census and Statistics Department records

Remarks: Up to March 2021, information on the number of persons engaged in the private independent establishments in the T&C industry for 2020 was not yet available.

Work of ITC relating to quality support

1.9 ITC promotes internationally accepted standards and conformity assessment services to underpin technological development and international trade, and the development of the T&C industry in Hong Kong under its programme area “Quality Support”. The work of ITC relating to quality support includes:

- (a) ***Hong Kong Accreditation Service (HKAS).*** Accreditation refers to attestation issued by a third party (i.e. an accreditation body) to a CAB

conveying formal demonstration of its competence to carry out specific conformity assessment services. The application for HKAS accreditation is voluntary and CABs are not required to obtain HKAS accreditation in order to carry out conformity assessment services in Hong Kong. There are three accreditation schemes under HKAS:

- (i) ***Hong Kong Laboratory Accreditation Scheme (HOKLAS).*** HOKLAS provides accreditation services for laboratories, reference material (Note 4) producers and proficiency testing providers;
 - (ii) ***Hong Kong Certification Body Accreditation Scheme (HKCAS).*** HKCAS provides accreditation services for certification bodies, and greenhouse gas validation and verification bodies; and
 - (iii) ***Hong Kong Inspection Body Accreditation Scheme (HKIAS).*** HKIAS provides accreditation services for inspection bodies;
- (b) ***Product Standards Information Bureau (PSIB).*** PSIB promotes general awareness of the importance and benefits of product standards and facilitates manufacturers and exporters in understanding and complying with international standards and requirements. PSIB's work involves:
- (i) operation of the Product Standards Resource Centre (PSRC);
 - (ii) sales of standards and standard-related publications; and
 - (iii) provision of free technical enquiry services on product standards and safety requirements;
- (c) ***Standards and Calibration Laboratory (SCL).*** SCL is responsible for establishing and maintaining the reference standards of physical

Note 4: *Reference material is a material that is sufficiently homogeneous and stable with respect to one or more specified properties, and has been established to be fit for its intended use in a measurement process. Reference material is typically used for calibrating instruments or as quality control material for an analysis.*

Introduction

measurement traceable to the International System of Units (SI) (Note 5) for Hong Kong. SCL's work involves:

- (i) development and maintenance of primary standards for the physical measurements in six fields, namely: (1) electromagnetism; (2) time and frequency; (3) temperature; (4) photometry and radiometry; (5) length; and (6) mass;
 - (ii) provision of calibration services to users of measurement standards and measuring instruments to ensure measurement accuracy and metrological traceability to SI; and
 - (iii) organising training courses, workshops, seminars and symposiums for practitioners to promote the latest knowledge and development in metrology; and
- (d) ***Secretariat support for HKCTC.*** A section of ITC serves as the Secretariat of HKCTC (see Appendix A for an extract of the organisation chart of ITC). The Secretariat provides support to HKCTC in implementing measures to support the development of the T&C industry.

1.10 The Quality Services Division of ITC (see Appendix A) is responsible for operating HKAS, PSIB and SCL. As at 31 December 2020, the Quality Services Division and the Secretariat of HKCTC had a staff strength of 94 and 10 respectively. In 2019-20, the expenditure on the programme area "Quality Support" was \$145.5 million (see Table 1).

Note 5: *SI is a set of rules that defines the units of measurement of all quantities used in science and technology, which was adopted by the General Conference of Weight and Measures in 1960. For example, "kilogram" is the SI unit of mass.*

Table 1

**Expenditure on the programme area “Quality Support”
(2019-20)**

	Expenditure (\$ million)
SCL	65.8
HKAS	40.4
HKCTC	16.3
PSIB	3.5
Departmental overhead	19.5
Total	145.5

Source: Audit analysis of ITC records

Audit review

1.11 In October 2020, the Audit Commission (Audit) commenced a review of ITC’s efforts in promoting internationally accepted standards and conformity assessment services. The audit review has focused on the following areas:

- (a) HKAS (PART 2);
- (b) PSIB and SCL (PART 3);
- (c) support for HKCTC (PART 4); and
- (d) way forward (PART 5).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from the Government

1.12 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the Audit Report will serve as a valuable reference for ITC's continuous enhancement of the quality support services.

Acknowledgement

1.13 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of ITC during the course of the audit review amid the COVID-19 epidemic.

PART 2: HONG KONG ACCREDITATION SERVICE

2.1 This PART examines the operation of HKAS, focusing on the following areas:

- (a) promotion of accreditation services (paras. 2.3 to 2.16);
- (b) operation of accreditation schemes (paras. 2.17 to 2.28); and
- (c) performance measurement and reporting (paras. 2.29 to 2.32).

Background

2.2 HKAS was set up by the Government in 1998 through the expansion of HOKLAS, which was set up in 1985. HKAS provides accreditation mainly for laboratories, certification bodies and inspection bodies located in Hong Kong (Note 6) through HOKLAS, HKCAS and HKIAS respectively (see para. 1.9(a)). The objectives of HKAS are:

- (a) upgrading the standard of operation of CABs;
- (b) offering official recognition to competent CABs which meet international standards;
- (c) promoting the acceptance of endorsed reports and certificates issued by accredited CABs;
- (d) concluding mutual recognition arrangements with other accreditation bodies; and

Note 6: *Under HOKLAS, for tests included in the test category of “Construction Materials”, applications from laboratories located in the Pearl River Delta Region are also accepted. For tests included in the test category of “Toys and Children’s Products”, applications from laboratories outside Hong Kong will be accepted if they only involve minor extension of scope from Mainland laboratories that are already accredited by HKAS.*

- (e) eliminating the need for repetition of conformity assessment in the importing economies and thereby reducing costs and facilitating free trade across borders.

The Accreditation Advisory Board (AAB) (Note 7) advises HKAS on matters relating to accreditation.

Promotion of accreditation services

2.3 HKAS organises different activities (e.g. seminars) to promote its accreditation services. Accreditation is voluntary. CABs are not required to obtain HKAS accreditation in order to carry out conformity assessment services in Hong Kong. However, obtaining accreditation will bring about benefits including:

- (a) ***Recognition of competence.*** Accreditation provides formal third-party recognition to competent CABs. The accredited organisation is independently assessed against international standards in carrying out specific activities, e.g. testing/calibration, inspection or certification;
- (b) ***Marketing advantage.*** Accreditation facilitates acceptance of test and calibration results, inspection reports and certifications by governments, contractors, procurers and consumers, who want independently evaluated service providers. Accreditation in turn promotes corporate images and aids the sustainability of business of competent CABs; and
- (c) ***International acceptance.*** Through the various multilateral mutual recognition arrangements among accreditation bodies worldwide, overseas markets are more ready to accept HOKLAS endorsed test and calibration reports, HKIAS endorsed inspection reports and HKCAS accredited certificates. This cross-border recognition mechanism reduces the need for repetition of testing, calibration, certification and inspection in the importing economies and thereby facilitating trade.

Note 7: *The Chairman and members of AAB are appointed by the Secretary for Innovation and Technology under the delegated authority from CE. Members of AAB include: (a) representatives from private and public bodies having interests in the accreditation for CABs; (b) technical specialists; (c) major users of HKAS accredited activities; and (d) representatives from CABs.*

HKAS evaluates the performance of CABs through on-site assessments before they are recognised as competent in performing the conformity assessment services. As at 31 December 2020, there were 278 CABs accredited by HKAS (see Table 2). Information of these CABs is published on ITC's website. When looking for conformity assessment services, users may make reference to the information on ITC's website regarding the services provided by accredited CABs.

Table 2
Number of CABs accredited by HKAS
(31 December 2020)

Accreditation scheme	No. of CABs		
	Government bureau/ department (a)	Private sector (b)	Total (c) = (a) + (b)
HOKLAS	25	205	230
HKCAS	—	25	25
HKIAS	—	23	23
Total	25	253	278

Source: Audit analysis of ITC records

2.4 From time to time, HKAS explores the feasibility of launching new accreditation programmes to meet the needs of the T&C industry. According to the Quality Procedures of HKAS, when establishing a new programme, HKAS shall consider:

- (a) the needs, benefits and the volume of the demand for such accreditation programme in Hong Kong;
- (b) whether the subject of accreditation is accreditable in accordance with relevant international accreditation standards;

- (c) the competence of existing personnel and availability of other resources;
and
- (d) the views of interested parties.

2.5 As at 31 December 2020, the number of accreditation programmes under HOKLAS, HKCAS and HKIAS was 18, 9 and 4 respectively (see Appendix B).

Need to step up efforts to promote accreditation services of HKAS

2.6 *Net increase in number of accredited organisations.* While it is for individual organisations to decide, taking into account their own circumstances, whether or not to apply for accreditation, HKAS sets a benchmark on the net increase in accredited organisations each year. According to HKAS, the purpose of the benchmark is to facilitate it to review the extent to which its objective of “upgrading the standard of operation of CABs” (see para. 2.2(a)) has been met. Every year, HKAS reviews the net increase during the year and compares the net increase with the benchmark set for the year. Audit noted that for three of the five years from 2015-16 to 2019-20, the benchmark set had not been met (see Table 3). This reflected that more effort is needed in achieving the objective of “upgrading the standard of operation of CABs”.

Table 3

**Net increase in the
number of accredited organisations
(2015-16 to 2019-20)**

	2015-16	2016-17	2017-18	2018-19	2019-20
Benchmark set for the year (a)	+6	+6	+6	+6	+6
No. of additions	+13	+15	+12	+15	+12
No. of terminations	-8	-3	-5	-13	-12
Actual (b)	+5	+12	+7	+2	0
Actual as a percentage of benchmark set (c) = (b) ÷ (a) × 100%	83.3%	200%	116.7%	33.3%	0%
Benchmark set for the year had been met	✗	✓	✓	✗	✗

Source: Audit analysis of ITC records

Remarks: The review period for the net increase in the number of accredited organisations started on 1 September of a year and ended on 31 August of the following year.

2.7 Termination of accreditations. While there were a considerable number of organisations newly accredited in each year, there were also a considerable number of accredited organisations terminating their accreditations. For example, in 2019-20, while 12 new accreditations were granted, there were 12 terminations in the same year (see Table 3 in para. 2.6). According to HKAS, for organisations seeking termination of accreditation status, HKAS would ascertain their reasons for termination and record the results of enquiry. However, Audit noted that HKAS had not promulgated guidelines on the procedures for ascertaining the reasons for termination and whether any follow-up actions are warranted. Audit examination of the termination for the 34 accredited organisations in the period from 2018 to 2020 revealed that:

- (a) for 20 (59%) organisations, no reason for termination was recorded;
- (b) for 5 (15%) organisations, the reason for termination was recorded as “business decision” without further details; and

- (c) for 9 (26%) organisations, various reasons for termination were recorded (e.g. closure of laboratory, insufficient funding or transfer of key staff).

2.8 *New accreditation programmes.* Audit examined the number of organisations that were accredited under the three accreditation schemes and noted that as at 31 December 2020, the number of organisations accredited under some programmes was not high (see Table 4):

- (a) **HOKLAS.** Of the 18 programmes, 3 (17%) had not more than two organisations accredited. Of these 3 programmes, 1 had only two organisations accredited and each of the remaining 2 had only one organisation accredited;
- (b) **HKCAS.** Of the 9 programmes, 4 (44%) had not more than two organisations accredited. Of these 4 programmes, 2 had only two organisations accredited, 1 had only one organisation accredited and the remaining one had not granted accreditation to any organisation since the programme's commencement in November 2011; and
- (c) **HKIAS.** Of the 4 programmes, 2 (50%) had not more than two organisations accredited. Of these 2 programmes, 1 had only two organisations accredited and the remaining one had not granted any accreditation since the programme's commencement in December 2017.

Table 4

**Programmes with not more than two organisations accredited
(31 December 2020)**

Accreditation scheme	Programme	Commencement date	No. of organisations accredited as at 31 December 2020
HOKLAS	Forensic testing	December 2010	2
	Reference material producers	September 2010	1
	Veterinary testing	October 2017	1
HKCAS	Greenhouse gas validation and verification	December 2012	2
	Residential care homes (elderly persons) service providers' management system certification	June 2013	2
	Food safety management system certification	March 2011	1
	Information security management system certification	November 2011	0
HKIAS	Consumer products	December 1999	2
	Scene of crime investigation	December 2017	0

Source: Audit analysis of ITC records

2.9 Before each new programme is launched, HKAS submits a proposal to AAB for endorsement. Audit reviewed the proposals for 3 (33%) of the 9 programmes with not more than two accredited organisations (see Table 4) and found the following issues:

- (a) ***Veterinary testing under HOKLAS.*** Before establishing this accreditation programme, HKAS consulted stakeholders in this field (including private

practitioners, veterinary laboratories in public organisations, a university offering veterinary programme and the Agriculture, Fisheries and Conservation Department) and asked if they were interested in the accreditation service. In the proposal submitted to AAB in March 2016, HKAS estimated that there were around 20 small animal hospitals/clinics in Hong Kong operating a sizeable veterinary laboratory and there was a potential demand for the new programme. However, up to 31 December 2020, only one laboratory had applied and obtained accreditation under the programme;

- (b) ***Information security management system certification under HKCAS.*** Before the proposal was submitted to AAB in January 2011, HKAS conducted a survey to assess the demand for the new programme. In the survey, 9 (53%) of the 17 respondents expressed interest for the new programme. However, up to 31 December 2020, only two applications had been received and no accreditation had been granted; and
- (c) ***Scene of crime investigation under HKIAS.*** According to the proposal submitted to AAB in June 2015, some government departments would likely be users of the services under the new programme. However, up to 31 December 2020, no applications for accreditation had been received. According to HKAS:
 - (i) one potential applicant had already indicated that it would submit an application in 2021; and
 - (ii) CABs needed time to prepare for the application for accreditation. For instance, CABs needed to establish the necessary management system, train and evaluate their staff, prepare and validate the methods they use, collect sufficient data to demonstrate their competences in carrying out the activities concerned, etc. This process could take one to two years or even longer, depending on the complexity of the activities and the resources of CABs.

2.10 Audit considers that ITC needs to:

- (a) before launching new accreditation programmes, conduct thorough assessments on the market demand for the programmes (e.g. conduct surveys among industry practitioners and consult key stakeholders);
- (b) step up efforts in promoting the three accreditation schemes of HKAS and in particular, those accreditation programmes of the schemes with only a small number of accredited organisations; and
- (c) consider promulgating guidelines on the procedures for liaising with the organisations terminating their accreditations to ascertain whether the reasons for the termination are attributable to HKAS's services and whether HKAS can take appropriate follow-up actions if necessary.

Need to encourage bureaux/departments to use services of HKAS and its accredited organisations

2.11 According to General Circular No. 16/2016 issued by the Director of Administration in February 2016 (Note 8), government bureaux/departments (B/Ds) were urged to use the accreditation services provided by HKAS and the conformity assessment services provided by organisations accredited by HKAS:

Accreditation services provided by HKAS

- (a) B/Ds operating laboratories are urged to apply for HOKLAS accreditation. Success in obtaining accreditation underlines the high standard of the services provided and acknowledges a firm commitment to continual quality improvement;
- (b) B/Ds involved in evaluating non-government laboratories, inspection bodies, certification bodies, proficiency testing providers, reference material producers, greenhouse gas validation/verification bodies, suppliers

Note 8: *General Circular No. 16/2016 superseded General Circular No. 2/2014 issued by the Director of Administration in February 2014, with the pertinent features mentioned in paragraph 2.11 unchanged.*

or contractors are recommended to use HKAS accreditation as an independent means of quality assurance;

Services provided by organisations accredited by HKAS

- (c) B/Ds are recommended to use conformity assessment services that are accredited by HKAS. B/Ds should request reports or certificates bearing HKAS accreditation symbol; and
- (d) B/Ds seeking management system certification are urged to use certification services accredited under HKCAS.

2.12 Upon enquiry, ITC informed Audit in January and March 2021 that:

- (a) when developing and executing the accreditation programmes, HKAS had involved relevant B/Ds;
- (b) HKAS had published information about its accreditation services and points of enquiry on ITC's website for B/Ds' information; and
- (c) from time to time, HKAS met with different B/Ds to discuss accreditation related matters, introduce the accreditation services of HKAS to them and seek their feedback on services.

2.13 Audit noted that in the period from 2016 to January 2021, only two new accreditations were granted to B/Ds and two B/Ds which had been accredited before 2016 terminated their accreditations. According to ITC, HKAS had communicated with the two B/Ds through emails or phone calls to ascertain the reasons for their terminations. However, Audit noted that HKAS had not recorded the reasons for the terminations and whether follow-up actions had been taken to encourage them to retain the accreditation status.

2.14 Audit considers that ITC needs to step up efforts in promoting to B/Ds the services of HKAS and services of organisations accredited by HKAS and encourage them to use such services. For example, HKAS may send promotional materials to B/Ds which are potential users of the services. ITC also needs to promulgate

guidelines on the procedures for discussing with B/Ds which terminate their accreditations voluntarily to ascertain the reasons for the terminations and whether any follow-up actions are warranted.

Audit recommendations

2.15 Audit has *recommended* that the Commissioner for Innovation and Technology should:

- (a) before launching new accreditation programmes, conduct thorough assessments on the market demand for the programmes;**
- (b) step up efforts in promoting the three accreditation schemes of HKAS and in particular, those accreditation programmes of the schemes with only a small number of accredited organisations;**
- (c) step up efforts in promoting to B/Ds the services of HKAS and services of organisations accredited by HKAS, and encourage B/Ds to use such services; and**
- (d) promulgate guidelines on the procedures for ascertaining the reasons for the voluntary terminations of accreditations and whether any follow-up actions are warranted.**

Response from the Government

2.16 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

- (a) ITC will continue to conduct thorough surveys among industry practitioners and consult key stakeholders to determine market demand for new services, and carefully consider their feedback before launching new programmes;**
- (b) ITC will step up its efforts in promoting the services of HKAS and services of organisations accredited by HKAS to both the public and private sectors; and**

- (c) ITC will formalise the procedures for ascertaining the reasons for voluntary terminations of accreditations and take appropriate follow-up actions if necessary.

Operation of accreditation schemes

2.17 In the period from 2016 to 2020, HKAS received 1,176 applications for accreditation. The Regulations for HKAS Accreditation issued by HKAS set out the accreditation procedures of HKAS (see Appendix C):

- (a) ***Application.*** An organisation seeking accreditation should contact HKAS and submit an application (including appropriate documentation) to HKAS;
- (b) ***Preliminary visit.*** HKAS arranges a preliminary visit to the organisation, if necessary, to answer any questions relating to HKAS regulations and technical criteria, and to evaluate the readiness of the organisation for accreditation;
- (c) ***Documentation review.*** HKAS conducts documentation review and informs the applicant of any nonconformities after the review;
- (d) ***On-site assessment.*** HKAS selects suitable experts and/or assessors to undertake on-site assessment of the organisation. An on-site assessment is undertaken at the organisation and where appropriate, also at its clients' or contractors' sites;
- (e) ***Review of assessment by AAB.*** The assessment is reviewed by AAB and the assessment results will be issued to the applicant in the form of an outcome letter;
- (f) ***Granting of accreditation.*** If any required remedial actions taken by the applicant are found acceptable by HKAS, granting of accreditation normally follows. After accreditation is granted, a formal notification letter and a certificate of accreditation are issued to the applicant; and
- (g) ***Reassessment.*** After accreditation has been granted, HKAS reassesses the accredited organisations regularly in accordance with specific schedules to

ensure that the standards required for continued accreditation are maintained.

Reassessments not conducted in a timely manner

2.18 HKAS conducts reassessments for each accredited organisation regularly to ensure that the standards required for continued accreditation are maintained. The continuation of the accreditation of an organisation is subject to the satisfactory resolution of nonconformities identified in the reassessments. The frequencies for conducting reassessments vary among the three accreditation schemes:

- (a) ***HOKLAS.*** Reassessments are conducted in the following year after the accreditation is granted and thereafter at intervals normally not exceeding two years;
- (b) ***HKCAS.*** Reassessments are conducted every three years after the accreditation is granted; and
- (c) ***HKIAS.*** Reassessments are conducted every two years after the accreditation is granted.

2.19 The Quality Procedures of HKAS stipulate that the reassessments should be conducted not later than four weeks after their due dates. Audit reviewed 20 reassessments conducted by HKAS in the period from 2016 to 2019 (5 for each year) (Note 9) and noted that 2 (10%) of the 20 reassessments were delayed (i.e. conducted later than four weeks after the due dates). The delays were 28 days and 37 days respectively, counting from the expiry of four weeks after the due dates.

2.20 Audit also noted that as at 14 October 2020, 40 outstanding reassessments had been overdue for more than four weeks (i.e. delayed) (see Table 5). The delays, counting from the expiry of four weeks after the due dates, ranged from 7 to 651 days (93 days on average).

Note 9: *According to ITC, the reassessments in 2020 were affected by the outbreak of COVID-19.*

Table 5

**Outstanding reassessments overdue for more than four weeks
(14 October 2020)**

Period of delay (Note 1) (Day)	HOKLAS	HKCAS	HKIAS	Total
≤ 50	10	8	1	19
51 to 100	14	—	—	14
101 to 200	4	—	—	4
201 to 500	—	—	—	—
501 to 700	—	—	3 (Note 2)	3
Total	28	8	4	40

Source: Audit analysis of ITC records

Note 1: The period of delay up to 14 October 2020 was counted from the expiry of four weeks after the due date of reassessment.

Note 2: The longest period of delay was 651 days (1.78 years). According to HKAS: (a) these 3 reassessments involved 2 CABs with branches in Mainland. Upon the implementation of new requirements in the international standard governing the operations of accreditation bodies (i.e. ISO/IEC 17011) with effect from April 2019, instead of conducting on-site reassessment visits to the branches in Mainland, the CAB's staff stationed in Mainland are required to travel to their Hong Kong offices during HKAS's reassessment visits for interview; (b) in late 2019, the CABs concerned agreed with the revised arrangement. However, their staff stationed in Mainland could not travel to Hong Kong for assessment due to the outbreak of COVID-19; and (c) with the implementation of remote assessment in early 2021, the situation would be improved.

2.21 Upon enquiry, ITC informed Audit in January and March 2021 that:

- (a) HKAS conducted reassessments more frequently than required by the international standard governing the operations of accreditation organisations (i.e. ISO/IEC 17011). The international standard required accreditation bodies to conduct a reassessment at least once every five years. Although some reassessments were not conducted according to the timeframe stipulated by the Quality Procedures of HKAS, the frequency of

the reassessments complied with the requirement of the international standard;

- (b) some on-site reassessments were delayed due to the outbreak of COVID-19, as they needed to be conducted in Mainland; and
- (c) HKAS would arrange remote assessments to some accredited organisations tentatively in early 2021. HKAS had taken actions to ensure compliance with the practice in the international accreditation community for handling delays in on-site assessments due to the outbreak of COVID-19, e.g. by conducting documentation review if on-site assessments could not be conducted.

2.22 Audit considers that ITC needs to take measures to ensure that the reassessments for accredited organisations are conducted in a timely manner, and arrange remote reassessments where appropriate.

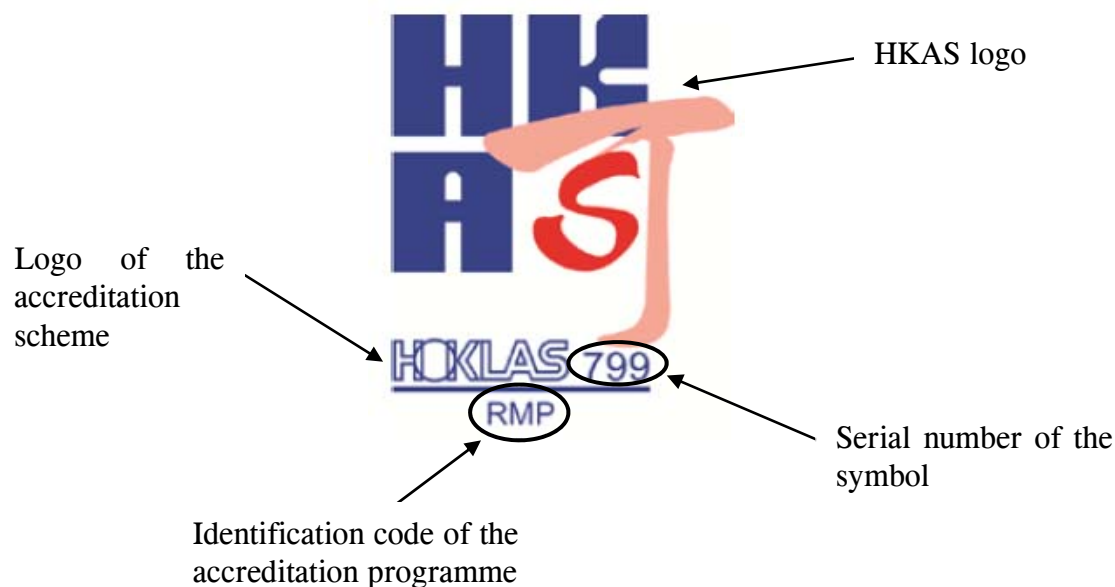
Improper use of HKAS symbols and false claims of accreditation status

2.23 Every accredited organisation is given a unique accreditation symbol (see Figure 3 for an example). Accredited organisations may use the HKAS accreditation symbols and claim their HKAS accreditation status in their stationeries, documents, promotional materials, reports, certificates and publicity materials. The symbol consists of:

- (a) HKAS logo;
- (b) logo of the accreditation scheme (e.g. HOKLAS);
- (c) the identification code of the accreditation programme (e.g. RMP for reference material producers); and
- (d) the serial number of the symbol.

Figure 3

HKAS accreditation symbol for HOKLAS



Source: Audit analysis of ITC records

2.24 According to the Regulations for HKAS Accreditation issued by HKAS, all advertising and promotional materials, and statements made by any organisation shall not give a false or misleading impression regarding the accreditation status of the organisation. HKAS has put in place measures to check any misrepresentation of HKAS accreditation status on an organisation's website once the organisation terminated its accreditation. In July 2015, HKAS found that some organisations misused HKAS accreditation symbols on advertising materials or websites. Hence, HKAS reminded accredited organisations that:

- (a) it was the accredited organisation's responsibility to minimise the risk of a client or reader being misled as to the status, extent and limitation of the organisation's accreditation status; and
- (b) in situations where the organisation made a statement on its accreditation status and where non-accredited activity was also mentioned, the organisation should also include a statement indicating which activity was not accredited.

2.25 An accredited organisation may terminate its accreditation(s) for some or all of its accredited activities (Note 10). In 2019, 21 accredited organisations under HOKLAS terminated the accreditations for all or part of their accredited activities. In November 2020, Audit examined the websites of 15 of these 21 organisations and noted that:

- (a) for 1 (7%) organisation, the accreditations on all its accredited activities had been terminated and therefore the accreditation status of the organisation had ceased. However, it still claimed on its website that its laboratories were accredited by HKAS, and was still displaying HKAS accreditation symbol on its website;
- (b) for 1 (7%) organisation, while its accreditations on the activities “corrosion tests” and “toxic elements tests” had been terminated, it still claimed on its website that its laboratories were accredited by HKAS for “corrosion tests” and “toxic elements tests”; and
- (c) for 2 (13%) organisations, although the accreditations on some of their activities had been terminated, they did not include a statement indicating which activities were not accredited, contrary to the requirements of HKAS (see para. 2.24(b)).

2.26 Audit considers that ITC needs to strengthen the measures to ensure proper use of HKAS symbols and proper claims of accreditation status.

Note 10: *For example, an accredited organisation accredited under the accreditation programme “environment testing” may terminate the accreditation for its air quality testing services, but maintain its accreditation for water testing services under the same programme.*

Audit recommendations

2.27 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

- (a) take measures to ensure that the reassessments for accredited organisations are conducted in a timely manner, and arrange remote reassessments where appropriate; and**
- (b) strengthen the measures to ensure proper use of HKAS symbols and proper claims of accreditation status.**

Response from the Government

2.28 **The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:**

- (a) the delays in reassessments mentioned in paragraphs 2.19 and 2.20 were mainly due to travel restrictions and social distancing measures during the outbreak of COVID-19 in 2020. HKAS has been conducting remote assessments and will fully utilise such technique, where appropriate, to minimise any further delay. Remote assessment is a recognised practice in the international accreditation community to deal with delays caused by the pandemic; and**
- (b) ITC has taken immediate follow-up actions on the cases mentioned in paragraph 2.25 and instructed the organisations to rectify the accreditation claims concerned. ITC will strengthen the surveillance mechanism on the use of HKAS symbols and claims of accreditation status on organisations' websites after the termination of their accreditations.**

Performance measurement and reporting

Need to enhance reporting of information on performance of HKAS

2.29 ITC reports the performance of HKAS in its Controlling Officer's Report (COR) using nine performance indicators, including three on the numbers of accredited organisations, namely "Number of accredited laboratories", "Number of accredited certification bodies" and "Number of accredited inspection bodies". However, the numbers reported under these indicators are affected by the number of organisations newly accredited in the year and the number of organisations which ceased their accreditations in the year. For instance:

- (a) while the number of accredited laboratories decreased by 1 from 226 in 2017 to 225 in 2019, there were 9 and 11 newly accredited laboratories in 2018 and 2019 respectively. On the other hand, 8 and 13 laboratories ceased their accreditations in 2018 and 2019 respectively; and
- (b) while the number of accredited inspection bodies remained as 22 as reported in the three CORs in the period from 2017 to 2019, in both 2018 and 2019 there was 1 inspection body newly accredited and 1 inspection body which ceased its accreditation.

2.30 To enhance transparency, Audit considers that ITC needs to consider the merits of disclosing the information on the number of newly accredited bodies and the number of accredited bodies which ceased their accreditations in each year. For instance, ITC may consider:

- (a) replacing the performance indicator on the number of accredited bodies by separate indicators on the number of bodies newly accredited and the number of accredited bodies which ceased their accreditations in the year; or
- (b) disclosing the pertinent information as notes in COR.

Audit recommendation

2.31 Audit has *recommended* that the Commissioner for Innovation and Technology should consider the merits of disclosing the information on the number of newly accredited bodies and the number of accredited bodies which ceased their accreditations in each year.

Response from the Government

2.32 The Commissioner for Innovation and Technology agrees with the audit recommendation. She has said that ITC has already included the performance indicator on the number of newly accredited organisations in the 2021-22 COR and will specify the number of accredited bodies which ceased their accreditations in the notes of the COR next year.

PART 3: PRODUCT STANDARDS INFORMATION BUREAU AND STANDARDS AND CALIBRATION LABORATORY

3.1 This PART examines the work of PSIB and SCL, focusing on the following areas:

- (a) management issues of PSIB (paras. 3.2 to 3.16); and
- (b) management issues of SCL (paras. 3.17 to 3.29).

Management issues of Product Standards Information Bureau

3.2 PSIB was set up in 1987 to provide local manufacturers with up-to-date information on overseas standards. The objectives of PSIB are:

- (a) promoting the general awareness of the importance and benefits of standards in underpinning the development of technology and products; and
- (b) facilitating compliance with standards, which enhances the competitiveness and supports cross-border trade.

PSIB participates in major international and regional forums relating to standardisation to keep abreast of the latest standards development.

3.3 PSIB provides the following services:

- (a) ***Resource centre service at PSRC.*** Members of the public may visit PSRC and use the reference materials free of charge;

- (b) *Standard sales service.* Materials available for sale include standards and standard-related publications (e.g. guides and handbooks) issued by six standard publishers (Note 11); and
- (c) *Enquiry service.* Interested parties may use free technical enquiry service of PSIB on product standards and safety requirements.

Low utilisation of PSRC

3.4 PSRC has a total net operational floor area of 41 square metres and is manned by a clerical assistant. PSRC maintains a repository (see Photograph 1) of international standards (e.g. International Standards issued by ISO), national standards (e.g. British Standards issued by the British Standards Institution) and standard-related publications for public reference. They are copyright materials and are not available for borrowing. There is a reading booth (see Photograph 2) with a computer for visitors to access online resources for local and overseas technical regulations, standards, guides and code of practices. The materials accessible to the visitors from this computer are no different from any other computers outside PSRC.

Note 11: *The six standard publishers are: (a) American Society for Testing and Materials International; (b) British Standards Institution; (c) Deutsches Institut für Normung; (d) IEC; (e) ISO; and (f) Japanese Standards Association.*

Photograph 1

Standards and standard-related publications kept in PSRC



*Source: Photograph taken by Audit staff on
8 January 2021*

Photograph 2

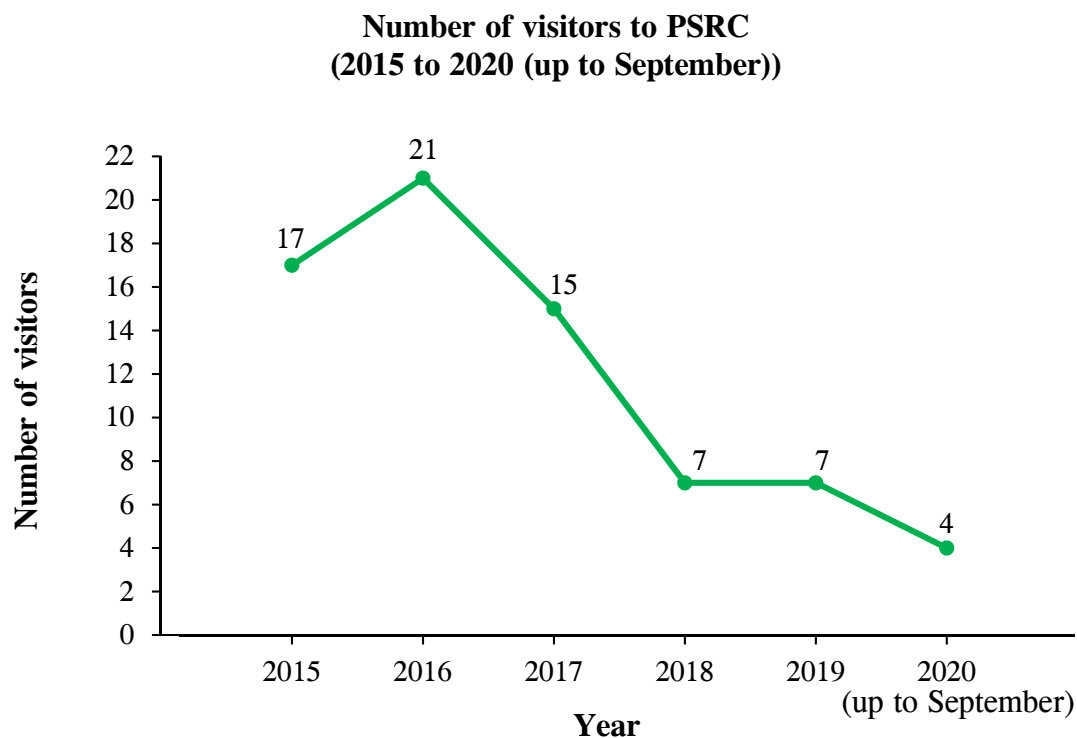
The reading booth of PSRC



*Source: Photograph taken by Audit staff on
8 January 2021*

3.5 Audit reviewed the number of visitors to PSRC in the period from 2015 to 2020 (up to September) and noted that the number of visitors to PSRC decreased by 10 (58.8%) from 17 in 2015 to 7 in 2019 (see Figure 4). There were only 4 visitors to PSRC in 2020 (up to September) amid the outbreak of COVID-19.

Figure 4



Source: Audit analysis of ITC records

Remarks: According to ITC, the number of visitors to PSRC in 2020 was affected by the outbreak of COVID-19.

3.6 According to ITC, the decrease in the number of visitors to PSRC was mainly due to the enhancement of Internet access to standards and standard-related publications in recent years:

- (a) **Standards.** In the past, visitors used to visit PSRC to gain access to the hardcopies of the standards. Most of them visited PSRC for preliminary reviewing before deciding whether to purchase a standard. In recent years, publishers uploaded their standards (some were “preview versions” and some were “full versions”) on their websites, meeting the need of most

users. Therefore, it became unnecessary for the users to visit PSRC anymore; and

- (b) ***Standard-related publications.*** In the past, the publishers provided hardcopies of periodicals, journals and other printed materials to PSRC. Visitors came to PSRC if they wished to read the materials. In recent years, these materials were made available free of charge on the publishers' websites. According to ITC, the publishers had not provided the hardcopies of these materials to PSRC for over 7 to 8 years.

3.7 With more online resources available, members of the public can easily gain access to the standards and relevant materials on the Internet. Audit considers that ITC needs to review the need for maintaining PSRC and whether the services of PSRC can be more effectively provided by other means. For example, instead of maintaining PSRC, ITC can consider setting up an online product standards resource centre, and enhancing the links to the websites of the standard publishers and to the latest developments on standard-related issues.

Room for improvement in inventory management

3.8 Audit found room for improvement in the inventory management for the standards and standard-related publications kept in PSRC:

- (a) ***Inventory records not kept for some inventory items.*** According to the Stores and Procurement Regulations (SPRs) of the Government, books held on departmental charge and books maintained in departmental libraries should be accounted for in Inventory Sheet and Distribution Record (GF272) or Accession Register (GF39) as appropriate. Audit noted that PSIB had maintained inventory records for some standards procured before 2019 but not all inventory items kept in PSRC, contrary to the requirement of SPRs;
- (b) ***Inventory checks not conducted.*** According to SPRs, annual inventory check should be conducted on inventory stores held by B/Ds. However, PSIB had not maintained inventory records on some inventory items kept in PSRC (see para. 3.8(a)) and had not conducted inventory checks for PSRC; and

- (c) *Need to formulate guidelines on disposal of outdated standards with no reference value.* Standards and related publications are updated regularly by the standard publishers and the value of outdated standards and related publications diminishes as time goes by. Upon enquiry, ITC informed Audit in January 2021 that not all outdated materials kept in PSRC had reference value and it was not PSIB's intention to keep all outdated materials in PSRC. However, PSIB had not devised a mechanism to determine which withdrawn/superseded standards still had reference value and which ones had no reference value and should be disposed of. Audit conducted a site visit to PSRC in January 2021 and noted that some standards kept in PSRC were issued a long time ago and had been withdrawn or superseded by an updated version. For example, a standard issued by the British Standards Institution in 1970 and withdrawn in 1995 was still made available to visitors in PSRC.

3.9 Audit considers that ITC needs to maintain proper inventory records for all inventory items kept in PSRC and conduct inventory checks according to the requirements of SPRs. ITC also needs to devise an effective mechanism on disposal of outdated standards and publications in PSRC which have no reference value.

Room for improvement in performance reporting in COR

3.10 According to the guidelines issued by the Financial Services and the Treasury Bureau, Controlling Officers should make sure that information set out in CORs is substantiated, accurate and succinct. Controlling Officers should satisfy themselves that proper performance records are maintained and, as far as possible, can be validated. In its CORs in the period from 2015 to 2019, ITC reports the performance of PSIB under four targets (see Table 6) and five indicators (see Table 7).

**Product Standards Information Bureau and
Standards and Calibration Laboratory**

Table 6

**Performance targets for PSIB reported in CORs
(2015 to 2019)**

Performance	Target	Reported performance				
		2015	2016	2017	2018	2019
	(Working day)					
1. Processing of simple enquiries on product standards	1	1	1	1	1	1
2. Processing of complicated enquiries on product standards	8	8	8	8	8	8
3. Issue of quotations for standards (Note 1)	1	1	1	1	1	1
4. Processing of orders for licensed reproduction of standards (Note 2)	2	2	2	2	2	2

Source: CORs of ITC

Note 1: Before 2019, the wording was “Issue of quotations for documented standards”.

Note 2: Before 2019, the wording was “Processing of orders for photocopies of documented standards”.

Table 7

**Performance indicators for PSIB reported in CORs
(2015 to 2019)**

Performance indicator	Reported performance				
	2015	2016	2017	2018	2019
<i>Technical enquiries</i>					
1. No. of technical enquiries received	384	375	358	387	302
<i>Sales of standards (Note)</i>					
2. No. of enquiries received	204	125	149	134	59
3. No. of quotations given	964	720	899	323	262
4. No. of orders placed	94	74	73	94	37
5. Revenue generated (\$)	86,657	77,600	95,860	66,325	60,770

Source: CORs of ITC

Note: Before 2019, the wording was “Sales and photocopying of documented standards”.

3.11 *Reported results on achievement of performance targets not based on proper performance records.* According to CORs of ITC, in the period from 2015 to 2019, PSIB had fully achieved all the four performance targets (see Table 6). Audit examination of PSIB records revealed the following issues:

- (a) ***Targets 1 and 2.*** Since 5 May 2017, PSIB had introduced a mechanism to monitor the actual performance on Targets 1 and 2. Prior to that, the actual performance on Targets 1 and 2 was not monitored. There was no evidence showing that the performance reported in CORs for 2015, 2016 and 2017 was based on proper records of actual performance;
- (b) ***Target 2.*** PSIB did not receive any complicated enquiries in 2018 and 2019. However, ITC reported by mistake in its CORs that it took

8 working days for the “Processing of complicated enquiries on product standards”, instead of reporting that Target 2 was not applicable in the years; and

- (c) ***Targets 3 and 4.*** No performance records were kept to substantiate the actual performance reported for the period from 2015 to 2019 in CORs.

3.12 Audit considers that ITC needs to maintain proper performance records on PSIB’s sales of standards and take measures to ensure that performance reported in COR is substantiated by proper performance records.

3.13 ***Some performance information reported in COR not accurate.*** Audit examination of PSIB records in the period from 2015 to 2019 revealed that for sales of standards, some performance information on 2 of the 4 performance indicators (see Table 7), namely “Number of orders placed” for 2015 and 2017 to 2019 and “Revenue generated” for 2015, 2017 and 2018 reported in CORs did not tally with PSIB records (see Table 8).

Table 8

**Discrepancies between PSIB records and CORs on
number of orders placed and revenue generated
for sales of standards
(2015 to 2019)**

Year	No. of orders placed			Revenue generated (\$)		
	Per PSIB Record (a)	Reported in COR (b)	Discrepancy (Percentage) (c) = (b) – (a)	Per PSIB Record (d)	Reported in COR (e)	Discrepancy (Percentage) (f) = (e) – (d)
2015	95	94	–1 (–1.1%)	87,142	86,657	–485 (–0.6%)
2016	74	74	0 (0.0%)	77,600	77,600	0 (0.0%)
2017	71	73	+2 (+2.8%)	96,850	95,860	–990 (–1.0%)
2018	95	94	–1 (–1.1%)	66,275	66,325	+50 (+0.1%)
2019	33	37	+4 (+12.1%)	60,770	60,770	0 (0.0%)

Source: Audit analysis of ITC records

3.14 Upon enquiry, ITC informed Audit in December 2020 that the discrepancies between information reported in CORs and PSIB records were mainly due to clerical errors. Audit considers that ITC needs to take measures to ensure that the information on performance of PSIB reported in COR for sales of standards is accurate.

Audit recommendations

3.15 Audit has *recommended* that the Commissioner for Innovation and Technology should:

- (a) review the need for maintaining PSRC and whether the services of PSRC can be more effectively provided by other means;**
- (b) maintain proper inventory records for all inventory items kept in PSRC and conduct inventory checks according to the requirements of SPRs;**
- (c) devise an effective mechanism on disposal of outdated standards and publications in PSRC which have no reference value;**
- (d) maintain proper performance records on PSIB's sales of standards and take measures to ensure that performance reported in COR is substantiated by proper performance records; and**
- (e) take measures to ensure that the information on performance of PSIB reported in COR for sales of standards is accurate.**

Response from the Government

3.16 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

- (a) ITC is conducting a comprehensive stock-taking exercise of publications kept in PSRC in accordance with the requirements of SPRs and will develop a mechanism on the disposal of standards and publications in PSRC; and**
- (b) ITC will ensure that the performance records on PSIB's sales of standards are maintained properly and information on performance reported in COR is substantiated by proper performance records.**

Management issues of Standards and Calibration Laboratory

3.17 SCL was established in 1984 and became part of ITC in 2000. Through participation in the Mutual Recognition Arrangement drawn up by the International Committee for Weights and Measures, SCL's calibration certificates are accepted worldwide. SCL's major functions are:

- (a) establishing and maintaining the reference standards of physical measurement traceable to SI for Hong Kong (see para. 1.9(c));
- (b) participating in international metrological activities to ensure that these reference standards are recognised worldwide;
- (c) providing calibration services to users (including B/Ds and the public) of measurement standards and measuring instruments to ensure measurement accuracy and metrological traceability to SI;
- (d) providing accredited Proficiency Testing Services to laboratories in the T&C industry to demonstrate their technical competence; and
- (e) disseminating metrological knowledge through other customer services (e.g. organising training courses, workshops, seminars, etc. for practitioners to promote the latest knowledge and development in metrology).

Room for improvement in inventory management

3.18 In providing calibration services to customers, SCL operates ten laboratories with various types of equipment, parts and tools. In the period from 2015-16 to 2019-20, SCL incurred \$98.7 million on purchasing these items. As at 9 December 2020, SCL had 2,608 items of equipment, parts and tools. Audit found room for improvement in the management of inventory items of SCL:

- (a) ***Long time taken to implement a recommendation of the Government Logistics Department (GLD).*** In 2012, GLD completed a survey of the procurement and supplies procedures of ITC's Quality Services Division. GLD pointed out in its survey report that:

- (i) appointing an Executive Officer as the only inventory holder in the Quality Services Division was not appropriate, as it would be difficult for him/her to ensure the accuracy of the items kept at the users' end (e.g. the laboratories); and
- (ii) not providing a copy of the Inventory Sheet and Distribution Records (GF272s) to the users would cause disputes in case of discrepancies between the physical quantities and the inventory records.

GLD recommended ITC to conduct a comprehensive inventory check for all inventory items kept in all sections/units of the Quality Services Division for the purpose of setting up individual Inventory Sheet and Distribution Records to account for inventory items on a sectional/unit basis. In the period from December 2013 to March 2014, GLD conducted follow-up visits to ITC and found that ITC had not implemented the recommendation. In June 2014, GLD urged ITC to speed up the implementation. According to GLD, ITC informed it that progress had been made to implement the recommendation in the past few years. Audit noted that as at February 2021 (more than eight years since GLD made its recommendation in 2012), the implementation of GLD's recommendation had not been completed. In Audit's view, it is not satisfactory that it has taken ITC so long to implement GLD's recommendation;

- (b) ***Annual inventory checks not conducted.*** According to SPRs, B/Ds are required to conduct inventory checks at least once a year. However, there was no documentary evidence showing that ITC had conducted inventory checks for the inventory items of SCL in the period from 2016 to 2020. Upon enquiry, ITC informed Audit in March 2021 that it commenced a comprehensive inventory check in 2015 as recommended by GLD (see para. 3.18(a)) and the inventory check was still in progress. Therefore, pending the completion of the comprehensive inventory check, no annual inventory checks were completed in the period from 2016 to 2020; and
- (c) ***Need to improve control and recording of inventory items.*** According to SPRs, each inventory item should be recorded in the Inventory Sheet and Distribution Records, and the records should be updated for any transfers. In December 2020, Audit examined 40 inventory items of SCL (with a total purchase cost of \$4.4 million) and noted that of these 40 items:

- (i) 17 (42.5%) were not labelled with a reference number and, as a result, it was not possible to match the physical items to the Inventory Sheet and Distribution Records; and
- (ii) 5 (12.5%) had been transferred from one SCL laboratory to another without updating the Inventory Sheet and Distribution Records to reflect the transfers.

3.19 Audit considers that ITC needs to complete the implementation of the recommendation of GLD on inventory management as soon as practicable, and consult GLD if it encounters difficulties in implementing GLD's recommendation. ITC also needs to conduct inventory checks on its inventory items according to the requirements stipulated in SPRs and take measures to ensure the accuracy of inventory records.

Equipment not calibrated in a timely manner

3.20 It was stipulated in the Quality Manual issued by SCL that:

- (a) all equipment must be checked and calibrated before being put into service; and
- (b) after being put into service, equipment must be calibrated according to the planned schedule and marked with calibration labels or stickers indicating the date of last calibration and the due date for the next calibration.

3.21 Every month, SCL staff generate a calibration list for each laboratory from its computer system to identify equipment items that are due for calibration. According to the calibration list, as at 5 January 2021, of the 1,169 equipment items which required regular calibration (i.e. labelled as "Calibrate regularly"), 1,141 (97.6%) had calibration due dates (Note 12). Audit noted that:

- (a) 381 (33.4%) of the 1,141 equipment items had been overdue for calibration, with an average overdue period of 0.9 year (i.e. 331.8 days); and

Note 12: *According to ITC, 28 equipment items did not have calibration due dates due to various reasons, e.g. they were calibrated daily.*

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- (b) of the 381 items, 127 (33.3%) had been overdue for more than one year, including 25 (6.6%) which had been overdue for more than 3 years. The longest overdue period was 7.3 years (see Table 9).

Table 9

**Aging analysis of equipment items overdue for calibration
(5 January 2021)**

Overdue period	Number of equipment items	
≤ 1 year	254	(66.7%)
> 1 year to ≤ 2 years	68	(17.8%)
> 2 years to ≤ 3 years	34	(8.9%)
> 3 years to ≤ 4 years	21	(5.6%)
> 4 years to ≤ 5 years	2	(0.5%)
> 5 years (Note)	2	(0.5%)
Total	381	(100.0%)

Source: Audit analysis of ITC records

Note: The longest overdue period was 7.3 years. According to ITC, the item was a backup item (see para. 3.22(a)(i)).

3.22 Upon enquiry, ITC informed Audit in March 2021 that:

- (a) none of the 381 equipment items had been used in measurement work after they were overdue for calibration. Of these 381 equipment items:
- (i) 221 (58.0%) were backup equipment items (including the one with calibration overdue for 7.3 years). Although they were labelled as “Calibrate regularly” and had calibration due dates, they only needed to be calibrated before use. They should have been classified as “Calibrate as required” instead of “Calibrate regularly”; and

- (ii) 24 (6.3%) had been taken out of service. Although they were labelled as “Calibrate regularly” and had calibration due dates, they were not required to be calibrated. They should have been classified as “Not to be calibrated” instead of “Calibrate regularly”.

If backup equipment items and out-of-service equipment items were excluded from Table 9, only 136 equipment items were required to be calibrated regularly. Of these 136 equipment items, 122 (89.7%) had been overdue for 1 year or less and 14 (10.3%) had been overdue for more than 1 year, with the longest overdue period of 2.7 years; and

- (b) there were 136 equipment items (excluding backup items and out-of-service items) overdue for calibration. The number was higher than the normal level because of the Government’s special work arrangement in 2020 due to the outbreak of COVID-19 and staff could not return to the laboratories to conduct the calibration work in a timely manner. Special arrangement for in-house calibration jobs had been made to minimise the disruptions to external calibration jobs with priority given to equipment items which were essential in maintaining traceability and providing external calibration service. The overdue level would be improved when normal work arrangement resumed.

3.23 Audit considers that ITC needs to properly assign calibration requirement to SCL’s equipment and take measures to ensure that the equipment is calibrated in a timely manner according to the planned schedule.

Need to shorten the time for collecting equipment from customers for calibration

3.24 Customers requesting calibration service from SCL have to provide it with the details of the equipment to be calibrated. SCL then provides a quotation for the calibration. According to the Quality Manual of SCL:

- (a) the queuing time for calibration is the time between the acceptance of quotation by the customer and the collection of equipment by SCL for calibration; and
- (b) in general, the queuing time shall not be longer than 15 working days.

3.25 Audit examined the calibrations for 7,039 equipment items completed by SCL in the period from 2015 to 2020 (see Table 10). Audit noted that while calibration was in general performed shortly after collection, the queuing time before collection was long. Of the 7,039 equipment items:

- (a) 2,877 (40.9%) had queuing time not longer than 15 working days; and
- (b) 4,162 (59.1%) had queuing time longer than 15 working days, including 892 (12.7%) which had queuing time longer than 90 working days (averaging 166 working days). The longest queuing time was 827 working days.

Table 10

**Queuing time for calibration
(2015 to 2020)**

Queuing time (Working day)	No. of equipment items	
≤ 15	2,877	(40.9%)
16 to 90	3,270	(46.4%)
91 to 180	622	(8.9%)
181 to 270	892 (12.7%)	192 (2.7%)
271 to 364	57	(0.8%)
≥ 365 (Note)	21	(0.3%)
Total	7,039	(100.0%)

Source: Audit analysis of ITC records

Note: The longest queuing time was 827 working days (i.e. 3.3 years).

3.26 Upon enquiry, ITC informed Audit in March 2021 that:

- (a) of the 4,162 equipment items with queuing time longer than 15 working days (see para. 3.25(b)), 1,683 (40.4%) were requests for calibration from B/Ds. These items were mostly general-use equipment items which required lower precision (e.g. liquid-in-glass thermometers). SCL would give higher priority to calibration of high-grade equipment items of private enterprises, which usually required higher precision. For the remaining 2,479 equipment items received from private enterprises, 2,216 (89.4%) had queuing time not longer than 90 working days and only 5 (0.2%) had queuing time longer than 270 working days, with the longest queuing time of 293 working days. Some of the equipment items received from private enterprises with queuing time longer than 90 working days were submitted by public utility companies which tend to confirm orders for a large batch of equipment at the same time and submit the equipment one by one

according to their internal calibration schedule. Therefore, the relatively long queuing time for these items was not caused by SCL; and

- (b) the general queuing time of 15 working days was set nearly 20 years ago. In view of the substantial increase in the number of calibration jobs and SCL's capacity, SCL would conduct a review on this with a view to prioritising its calibration jobs and setting different queuing times for different calibration jobs accordingly.

3.27 Audit considers that ITC needs to closely monitor the queuing time for SCL's calibration service and take necessary actions to address the issue of long queuing time.

Audit recommendations

3.28 Audit has *recommended* that the Commissioner for Innovation and Technology should:

- (a) **complete the implementation of the recommendation of GLD on inventory management as soon as practicable, and consult GLD if ITC encounters difficulties in implementing GLD's recommendation;**
- (b) **conduct inventory checks on inventory items according to the requirements stipulated in SPRs and take measures to ensure the accuracy of inventory records;**
- (c) **properly assign calibration requirement to SCL's equipment and take measures to ensure that the equipment is calibrated in a timely manner according to the planned schedule; and**
- (d) **closely monitor the queuing time for SCL's calibration service and take necessary actions to address the issue of long queuing time.**

Response from the Government

3.29 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

- (a) ITC has expedited the ongoing inventory check for all inventory items kept in the Quality Services Division in accordance with the requirements of SPRs and will complete the inventory check by the second quarter of 2021;
- (b) ITC will review the calibration requirement of SCL's equipment and assign appropriate calibration status to ensure that the equipment is calibrated in a timely manner; and
- (c) ITC will review the queuing time for SCL's calibration service and take appropriate action to address the issue of long queuing time of certain lower grade equipment items.

PART 4: SUPPORT FOR HONG KONG COUNCIL FOR TESTING AND CERTIFICATION

4.1 This PART examines the support for HKCTC provided by ITC, focusing on the following areas:

- (a) council meetings (paras. 4.5 to 4.17); and
- (b) educational and promotional activities (paras. 4.18 to 4.31).

Background

4.2 HKCTC was established by the Government in September 2009 as a non-statutory body (see para. 1.8) to advise the Government on:

- (a) the overall development strategy of the T&C industry;
- (b) new business opportunities worth exploring for the industry, having regard to latest developments in the Mainland and overseas markets; and
- (c) measures needed to raise the professional standing and community awareness of the industry.

4.3 HKCTC promotes the development of the T&C industry, with a vision to develop Hong Kong into a T&C hub in the region by reinforcing the branding of “Tested in Hong Kong, Certified in Hong Kong”. The roles of HKCTC are:

- (a) acting as a focal point of contact among all stakeholders, including the T&C industry itself, the related industries, providers of supporting services, etc.;
- (b) assisting the industry to explore new business opportunities;
- (c) coordinating effort by the industry to best dovetail Government policy objectives;

- (d) promoting acceptance of Hong Kong's testing or inspection reports and certificates by Mainland or overseas governments; and
- (e) enhancing manpower development and professionalism in the industry.

4.4 The Chairman and members of HKCTC, who are appointed by CE, comprise practitioners from the T&C sector, business sector, professional organisations (collectively referred to as “non-official members”) and representatives of public bodies and government departments (collectively referred to as “official members” — Note 13). ITC has set up a team to support HKCTC and serve as its executive arm and secretariat.

Council meetings

Need to improve attendance of some non-official members

4.5 In the period from 2016 to 2020, 14 council meetings were held (Note 14). While the overall attendance rate for each year during the period ranged from 75% to 85%, the attendance rate of non-official members was lower, ranging from 67% to 80% (see Table 11).

Note 13: *As at 31 December 2020, the official members of HKCTC comprised the following officials (or their representatives): (a) Executive Director of the Hong Kong Productivity Council; (b) Executive Director of the Hong Kong Trade Development Council; (c) Executive Director of the Vocational Training Council; (d) the Government Chemist; and (e) the Commissioner for Innovation and Technology.*

Note 14: *In the period from 2016 to 2019, 12 council meetings were held (i.e. three meetings per year). In 2020, only 2 council meetings were held (through video conferencing) due to the outbreak of COVID-19.*

Table 11

**Attendance rates of council meetings
(2016 to 2020)**

Year	Attendance rate		
	Official member	Non-official member	Overall
2016	100%	75%	81%
2017	100%	67%	75%
2018	100%	80%	85%
2019	93%	71%	76%
2020	100%	78%	83%

Source: Audit analysis of HKCTC records

4.6 Audit analysed the attendance records of the council meetings held in the period from 2016 to 2019 (Note 15) (see Table 12) and noted that:

- (a) in each year, a significant percentage (12% to 35%) of the non-official members did not attend any council meetings or only attended one of the three council meetings held; and
- (b) in 3 of the 4 years, less than half (38% to 47%) of the non-official members attended all the three council meetings held. It was only in 2018 that more than half (53%) of the non-official members attended all the three council meetings held.

Note 15: *The attendance rate for 2020 was excluded from this analysis as only two council meetings were conducted through video conferencing due to the outbreak of COVID-19.*

Table 12

**Attendance of non-official members at council meetings
(2016 to 2019)**

No. of meetings attended	No. of members			
	2016	2017	2018	2019
0 or 1	2 (12%)	5 (31%)	2 (12%)	6 (35%)
2	8 (50%)	5 (31%)	6 (35%)	3 (18%)
3	6 (38%)	6 (38%)	9 (53%)	8 (47%)
Total	16 (100%)	16 (100%)	17 (100%)	17 (100%)

Source: Audit analysis of HKCTC records

Remarks: The attendance rate for 2020 was excluded from this analysis as only two council meetings were conducted (through video conferencing) due to the outbreak of COVID-19.

4.7 Audit considers that ITC needs to step up efforts to encourage and facilitate non-official members' attendance at council meetings. For instance, the Secretariat of HKCTC may remind members of the importance of attending meetings more frequently and continue to arrange video conferencing for members who have difficulties in attending meetings in person, and arrange meeting dates convenient to members as far as possible.

Need to improve declaration of interests in council meetings

4.8 According to the guidelines promulgated by the Secretary for Home Affairs for declaration of interests by members of advisory and statutory bodies, there are generally two systems for declaration of interests:

- (a) ***One-tier reporting system.*** Under this system, when a member perceives a potential conflict of interest in a matter placed before the board or committee, he/she should make a full disclosure of his/her interest; and

- (b) *Two-tier reporting system.* Under this system, members should disclose their general pecuniary interests on appointment to the boards and committees and annually thereafter, in addition to the report of conflicts of interest as and when they arise.

4.9 HKCTC has adopted the one-tier reporting system (i.e. disclosing potential conflicts of interest when they arise). Under this system:

- (a) any interest likely to lead an objective observer to believe that member's advice might have been motivated by personal interest shall be disclosed; and
- (b) when a potential conflict of interest is disclosed, the Chairman (or committee) should decide whether the member disclosing an interest may speak or vote on the matter, might remain in the meeting as an observer, or should withdraw from the meeting.

According to ITC, before the first meeting of each two-year term of HKCTC, a copy of the “Declaration of Interest by Members of the Public Sector Advisory and Statutory Bodies – Guidelines for One-Tier Reporting System” was circulated to members. During the briefings for new members, the reporting system was introduced to them. At the first meeting of each term of HKCTC, all members were reminded about the need to disclose interest, and the Guidelines was tabled.

4.10 Audit noted that there were cases of potential conflicts of interests not disclosed by members in council meetings of HKCTC. Each year in the period from 2016-17 to 2020-21, the annual work plan of HKCTC submitted to the council for endorsement included the Local Exhibition Programme (LEP) and the Mainland and Overseas Exhibition Programme (MOEP). Under these two programmes, HKCTC set up booths at trade shows in Hong Kong, Mainland and overseas to promote Hong Kong's T&C services. The rental and production costs of the booths were paid by

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HKCTC and eligible accredited CABs (Note 16) were invited to apply to use the booths free of charge to reach out to potential users of their services.

4.11 As its role is to facilitate the development of the T&C industry, HKCTC's members include leaders and active practitioners of the industry. In the period from 2016 to 2020, 50% to 71% of the non-official council members were associated with CABs in Hong Kong (i.e. being the senior management of the CAB). These CABs were potential participants of LEP and MOEP. However, Audit noted that no declarations of interests had been made by the members concerned when the work plans were discussed and endorsed in council meetings. In the period from 2016-17 to 2019-20, 11% to 50% of the participants of the exhibition programmes were CABs associated with council members (see Table 13).

Note 16: *To be eligible for participating in the exhibition programmes, the CABs should: (a) be providing T&C services in Hong Kong; (b) be accredited by HKAS or other accreditation bodies having mutual/multilateral recognition arrangement with HKAS for services provided in Hong Kong relevant to the respective exhibition; and (c) have the intention to obtain business from the respective exhibition and deliver the services in Hong Kong.*

Table 13

**Number of participants of exhibition programmes
associated with council members
(2016-17 to 2019-20)**

Status	2016-17	2017-18	2018-19	2019-20
	No. of participants			
Associated with council member(s) (Note 1)	3 (50%)	3 (33%)	3 (33%)	1 (11%) (Note 2)
Not associated with council member(s)	3 (50%)	6 (67%)	6 (67%)	8 (89%)
Total	6 (100%)	9 (100%)	9 (100%)	9 (100%)

Source: Audit analysis of HKCTC records

Note 1: For each case, the council member concerned was the senior management of the participant.

Note 2: There were another two CABs which were associated with two council members. However, the two council members concerned were absent from the council meeting in which the 2019-20 work plan was endorsed. Therefore, the two CABs were not included in this analysis.

4.12 Audit considers that ITC needs to strengthen measures to ensure that potential conflicts of interest of members are declared in council meetings.

Need to issue draft minutes of council meetings in a timely manner

4.13 It is important that the draft minutes of council meetings are issued to members to seek their feedback as soon as practicable after the meetings. This will enable members to comment on the minutes and suggest amendments while their memory of the meeting is still fresh. HKCTC has not issued any guidelines on the time limit for issuing draft minutes of council meetings to members.

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4.14 Audit examined the draft minutes of the 14 council meetings held in the period from 2016 to 2020 and noted that the Secretariat of HKCTC took 43 to 90 days (averaging 66 days) to issue the draft meeting minutes to members.

4.15 Audit considers that ITC needs to take measures to ensure that the draft minutes of council meetings are issued to members for comments as soon as possible.

Audit recommendations

4.16 Audit has *recommended* that the Commissioner for Innovation and Technology should:

- (a) **step up efforts to encourage and facilitate non-official members' attendance at council meetings;**
- (b) **strengthen measures to ensure that potential conflicts of interest of members are declared in council meetings; and**
- (c) **take measures to ensure that the draft minutes of council meetings are issued to members for comments as soon as possible.**

Response from the Government

4.17 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

- (a) facilitation such as video conference will continue to be provided for conducting meetings and meeting reminders would be issued to members more frequently;
- (b) while invitation to participating in LEP and MOEP has been open to all eligible CABs, council members will be reminded more frequently to declare potential conflict of interests at council meetings; and
- (c) ITC will also shorten the time for preparing draft minutes for council meetings.

Educational and promotional activities

4.18 To maintain a workforce of professionals with high integrity and technical expertise for Hong Kong's T&C industry, HKCTC has taken measures to attract new blood to the industry and enhance the capabilities of industry practitioners through various means of education and training. HKCTC has also taken measures to promote services of the T&C industry to explore further business opportunities for the T&C industry.

Need to step up efforts to promote the teaching kit launched

4.19 In June 2016, HKCTC launched a teaching kit for senior secondary chemistry teachers, namely "Teaching Kit on Chemical Testing for New Senior Secondary Curriculum". The teaching kit introduced basic chemical testing concepts to arouse students' interest in testing, and to help apprise students of the value of T&C. The total cost of developing and launching the teaching kit was \$266,200.

4.20 The teaching kit includes the Teachers' Guide, the Student Laboratory Manual and six experiment introduction videos in both English and Chinese. The teaching kit is available for download from:

- (a) HKCTC's website;
- (b) the One-stop Portal for Learning and Teaching Resources on the website of the Hong Kong Education City (Note 17); and
- (c) the Education Bureau's website (Note 18).

Note 17: *Hong Kong Education City was established in 2000 with the support of the Quality Education Fund. It was incorporated in 2002 to become a wholly-owned company of the Government.*

Note 18: *According to the Education Bureau, it had no role in the development of the teaching kit. Upon ITC's request, it helped promote the teaching kit by providing links to the kit.*

4.21 In 2017, HKCTC conducted a survey to collect the views of chemistry teachers on the teaching kit. The survey revealed that of the 75 respondents:

- (a) 51 (68%) had not heard about the teaching kit;
- (b) 68 (91%) had never used the teaching kit in class or school activities; and
- (c) 70 (93%) did not know that the teaching kit was available on the One-stop Portal for Learning and Teaching Resources (see para. 4.20(b)).

4.22 According to ITC, HKCTC organised a number of laboratory workshops for senior secondary students in the period from 2018 to 2020. Participating students were given opportunities to conduct experiments of the teaching kit in these workshops. To facilitate schools to conduct the experiments in the teaching kit, relevant content of the teaching kit was updated in 2019 to include a colorimetric measurement method using a new free mobile application. In addition to this teaching kit, HKCTC also planned to develop and launch another set of teaching materials for junior secondary students by the end of 2021.

4.23 Audit considers that ITC needs to step up efforts, seeking assistance from the Education Bureau if necessary, to promote the teaching kit on chemical testing to secondary schools with a view to arousing students' interest in testing and attracting new blood to the T&C industry.

Need to enhance attendance of seminars and workshops

4.24 In the period from 2015 to 2020, HKCTC organised 48 seminars and workshops for T&C practitioners (see an example in Photograph 3) to keep them abreast of the latest industry developments. The seminars and workshops were provided to participants free of charge. The total cost for organising the 48 seminars and workshops amounted to \$6.1 million.

Photograph 3

A seminar organised by HKCTC



Source: HKCTC records

4.25 Audit reviewed the attendance records of the 48 seminars and workshops organised in the period from 2015 to 2020 and noted that a significant number of enrolled participants did not attend the seminars and workshops (i.e. “no-shows”):

- (a) the percentage of no-shows ranged from 15.7% to 22%; and
- (b) of the 11,053 enrolled participants, only 8,969 (81.1%) attended the seminars and workshops. The total number of no-shows was 2,084 (18.9%) (see Table 14).

Table 14

**Percentage of no-shows in seminars and workshops
(2015 to 2020)**

Year	Number of participants enrolled (a)	Number of participants attended (b)	Number of no-shows (c) = (a)-(b)	Percentage of no-shows (d) = (c) ÷ (a) × 100%
2015	2,422	2,042	380	15.7%
2016	2,353	1,933	420	17.8%
2017	2,005	1,563	442	22.0%
2018	1,629	1,271	358	22.0%
2019	1,986	1,638	348	17.5%
2020 (Note)	658	522	136	20.7%
Overall	11,053	8,969	2,084	18.9%

Source: Audit analysis of HKCTC records

Note: According to ITC, the number of participants in 2020 was affected by the outbreak of COVID-19.

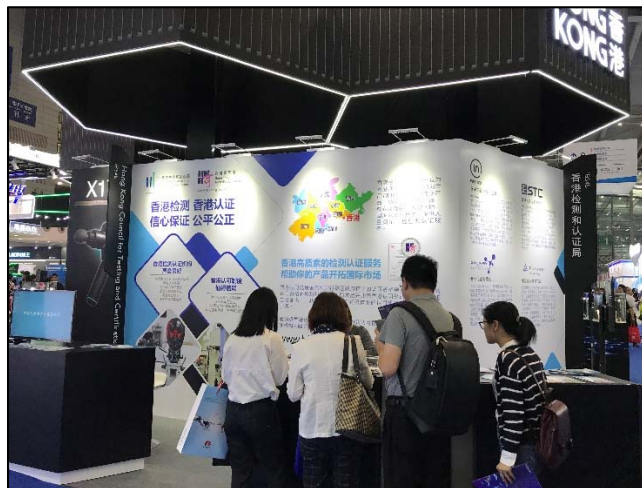
4.26 Audit considers that ITC needs to explore measures to encourage the enrolled participants to attend the seminars and workshops organised for T&C practitioners and reduce the no-show rate as far as possible.

Need to encourage participation in exhibition programmes

4.27 HKCTC has launched two exhibition programmes, namely LEP and MOEP (see para. 4.10). Under the two programmes, HKCTC sets up booths at major trade shows in Hong Kong, Mainland and overseas to promote Hong Kong's T&C services (see an example in Photograph 4). As mentioned in paragraph 4.10, HKCTC bears the booth rental, design and production cost, and coordinates the logistics arrangements, whereas the CABs deploy their staff at the booths to assist in promoting the strengths of Hong Kong's T&C industry.

Photograph 4

A booth set up by HKCTC in a trade show in Mainland



Source: HKCTC records

4.28 In the period from 2016-17 to 2019-20, HKCTC participated in 10 local trade shows and 8 Mainland and overseas trade shows under LEP and MOEP, with a total cost of \$1.5 million. The duration of each trade show was usually three to six days. Each day was divided into half-day timeslots to accommodate more CABs. For each trade show, HKCTC invited over 300 eligible CABs to participate. HKCTC had not set a target number of CABs to participate in the trade shows.

4.29 Audit examination of the participation records of LEP and MOEP for the period from 2016-17 to 2019-20 revealed that the response from the CABs was not enthusiastic. In each trade show, while the Secretariat of HKCTC invited over 300 CABs to participate (see para. 4.28), only a handful (2 to 5) of CABs applied for participation in the trade show. During the period, only 12 CABs participated in one or more trade shows. Audit considers that ITC needs to step up efforts to enhance CABs' interest in the exhibition programmes launched to promote Hong Kong's T&C services and boost their participation.

Audit recommendations

4.30 Audit has *recommended* that the Commissioner for Innovation and Technology should:

- (a) step up efforts, seeking assistance from the Education Bureau if necessary, to promote the teaching kit on chemical testing to secondary schools with a view to arousing students' interest in testing and attracting new blood to the T&C industry;**
- (b) explore measures to encourage the enrolled participants to attend the seminars and workshops organised for T&C practitioners and reduce the no-show rate as far as possible; and**
- (c) step up efforts to enhance CABs' interest in the exhibition programmes launched to promote Hong Kong's T&C services and boost their participation.**

Response from the Government

4.31 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that ITC will consider ways to further promote the teaching kit, seminars and workshops as well as exhibition programmes organised by HKCTC.

PART 5: WAY FORWARD

5.1 This PART examines the way forward on the promotion of conformity assessment services, focusing on the following areas:

- (a) new accreditation services to help fight COVID-19 (paras. 5.2 to 5.9); and
- (b) development of the T&C industry (paras. 5.10 to 5.14).

New accreditation services to help fight COVID-19

Need to step up efforts to promote new accreditation services to help fight COVID-19

5.2 Since the outbreak of COVID-19 in early 2020, the demand for testing services on medical face masks and COVID-19 has increased.

5.3 *Medical face masks test.* In early 2020, the demand for medical face masks surged significantly as a result of the outbreak of COVID-19, which aggravated the acute supply shortage situation in Hong Kong for masks and drove up prices. In response to the demand, many local production lines were set up to produce medical face masks. To help address the imminent shortage of medical face masks as well as to build up some reserve stock, the Government launched the Local Mask Production Subsidy Scheme under the Anti-epidemic Fund. A total of 20 local production lines were subsidised by the Scheme. The producers are required to provide a laboratory report of the masks produced showing compliance with Level 1 standard or above of the American Society for Testing and Materials F2100 from an accredited laboratory. This has created a great demand for testing services of accredited laboratories.

5.4 *COVID-19 viral test.* Conducting COVID-19 viral tests is a major measure adopted by the Government to prevent the entry and spread of COVID-19 in Hong Kong:

- (a) *Inbound travellers.* All travellers arriving Hong Kong via the Hong Kong International Airport and all travellers who have been to specified areas in

Way forward

Mainland in the past 14 days arriving Hong Kong via land boundary control points are required to be tested for COVID-19;

- (b) ***Universal Community Testing Programme.*** In September 2020, members of the public at the age of six or older could receive, on a voluntary basis, a one-off free virus testing service in centres set up by the Government. The testing service was performed by contracted testing institutions in the private sector; and
- (c) ***Community Testing Programme.*** Since mid-November 2020, the Government has set up community testing centres in Hong Kong to provide self-paid COVID-19 viral testing services to the public. The testing service is performed by contracted testing institutions in the private sector and the fee for each test is \$240. The community testing centres also provide free COVID-19 viral testing services for targeted groups (e.g. employees of residential care homes for the elderly).

In the period from 1 January 2020 to 23 February 2021, Hong Kong performed more than 8.6 million viral tests for COVID-19, of which 60% were conducted by testing institutions in the private sector (see Table 15).

Table 15

**Number of viral tests for COVID-19 in Hong Kong
(1 January 2020 to 23 February 2021)**

Organisation performing testing	No. of testing
Department of Health and Hospital Authority (Note)	3,469,393 (40%)
Testing institutions in the private sector	5,132,484 (60%)
Total	8,601,877 (100%)

Source: Audit analysis of information on the Government's COVID-19 thematic website (www.coronavirus.gov.hk)

Note: Some of the tests had been outsourced to testing institutions in the private sector.

5.5 Since April 2020, in response to the strong demand for testing services related to COVID-19, HKAS has launched two new accreditation services under HOKLAS:

- (a) **Medical face masks.** Laboratories performing physical and microbiological tests for medical face mask can apply for accreditation; and
- (b) **COVID-19.** Medical laboratories performing COVID-19 reverse transcription-polymerase chain reaction (RT-PCR) testing can apply for accreditation.

5.6 Audit noted that up to 28 February 2021:

- (a) only two accreditation applications had been received from CABs for medical face masks, and no accreditation had been granted; and
- (b) only 5 (22%) of the 23 local COVID-19 RT-PCR testing institutions in the private sector recognised by the Government had applied and obtained HKAS

Way forward

accreditation for COVID-19 RT-PCR testing. According to ITC, HKAS was processing the applications for accreditation from another 11 testing institutions and some testing institutions had already been accredited by overseas accreditation bodies.

5.7 Audit considers that ITC needs to step up efforts to promote HKAS accreditation services for the testing of medical face masks and COVID-19.

Audit recommendation

5.8 Audit has *recommended* that the Commissioner for Innovation and Technology should step up efforts to promote HKAS accreditation services for the testing of medical face masks and COVID-19.

Response from the Government

5.9 The Commissioner for Innovation and Technology agrees with the audit recommendation. She has said that ITC will further promote HKAS accreditation services for the testing of medical face masks and COVID-19 to laboratories.

Development of the testing and certification industry

Need to devise measures to facilitate further development of the T&C industry

5.10 As mentioned in paragraph 1.7, TFEC has identified T&C as one of the six economic areas where Hong Kong enjoys clear advantages and has good potential for further development and recommended the Government to establish HKCTC.

5.11 Upon the establishment of HKCTC in September 2009, CE tasked HKCTC to formulate a three-year market-oriented development plan for the T&C industry. In March 2010, HKCTC submitted a report to CE and made 26 recommendations to enhance the competitiveness of the T&C industry. In March 2013, HKCTC completed a review of the implementation progress of the recommendations made in 2010. According to the report, all recommendations made in 2010 had been implemented.

The 2013 report made further recommendations to support the development of the industry. Major recommendations made in 2013 included:

- (a) ITC to continue to assist the T&C industry in attracting talent by cooperating with universities, the Vocational Training Council and the industry;
- (b) HKAS and the Vocational Training Council to continue to work with the industry in enhancing professionalism of practitioners;
- (c) ITC to strengthen promotion of the Innovation and Technology Fund and the Research and Development Cash Rebate Scheme to the T&C industry;
- (d) PSIB to strengthen promotion of its services to the T&C industry; and
- (e) the Government to continue to take into account the needs of the T&C industry in future land use planning and provide the industry with assistance where appropriate.

5.12 Since 2013, there have been developments pertinent to the T&C industry. For example:

- (a) in September 2017, February 2019 and May 2020, implementation guides for updated versions of the CEPA Agreement on Trade in Services were promulgated. Currently, testing organisations in Hong Kong may cooperate with designated Mainland certification bodies to undertake testing for products requiring China Compulsory Certification (CCC) (Note 19); and
- (b) in February 2019, the Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area was promulgated. The Development Plan supports enterprises in the Greater Bay Area to use services of Hong Kong including T&C services.

Note 19: CCC is a mandatory product certification system to ensure that the quality and safety of products marketed in China are up to domestic standards. CCC mark is required for both Chinese manufactured and foreign imported goods listed on the CCC catalogue which covers 17 product types.

Way forward

Audit considers that ITC needs to, in collaboration with the Innovation and Technology Bureau and taking on board the observations and recommendations in this Audit Report, continue to engage HKCTC and other stakeholders in the T&C industry with a view to devising appropriate measures to facilitate the industry in grasping new opportunities for development.

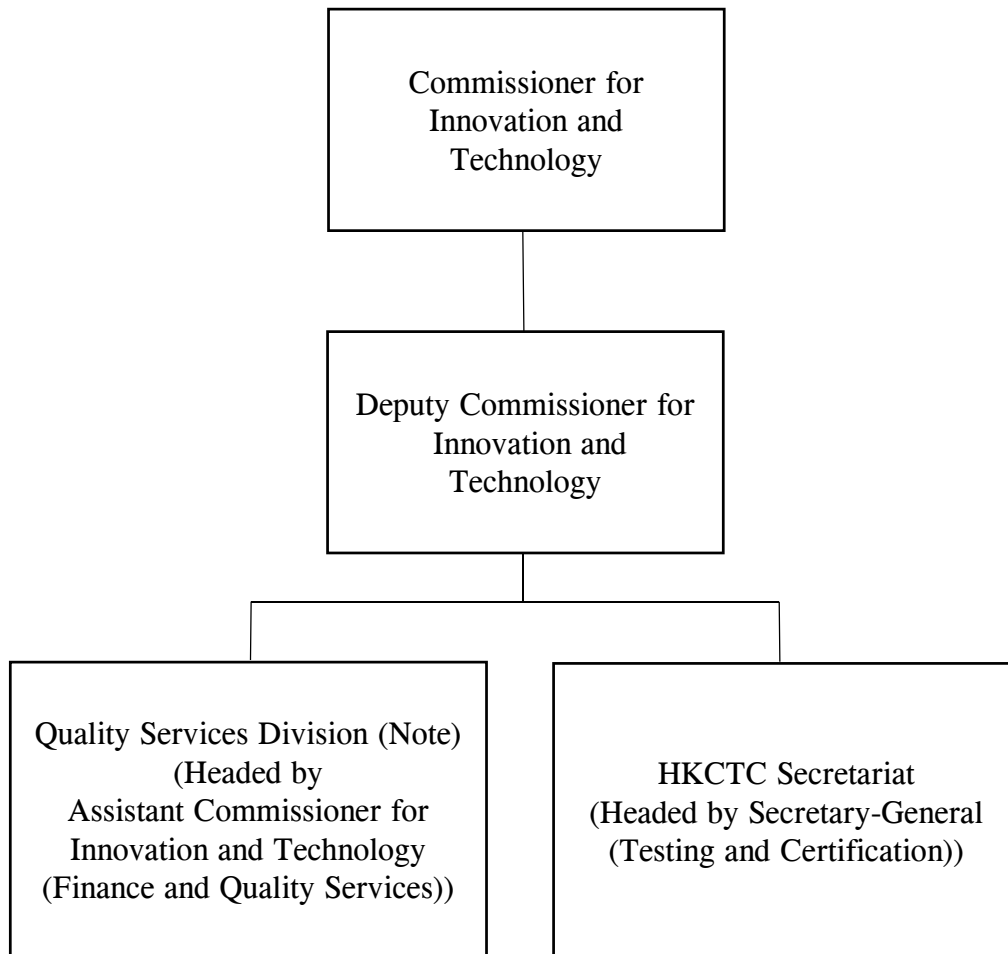
Audit recommendation

5.13 **Audit has *recommended* that the Commissioner for Innovation and Technology should, in collaboration with the Innovation and Technology Bureau and taking on board the observations and recommendations in this Audit Report, continue to engage HKCTC and other stakeholders in the T&C industry with a view to devising appropriate measures to facilitate the industry in grasping new opportunities for development.**

Response from the Government

5.14 The Commissioner for Innovation and Technology agrees with the audit recommendation. She has said that ITC will continue to work with HKCTC and other stakeholders to facilitate the development of the T&C sector.

**Innovation and Technology Commission:
Organisation chart (extract)
(31 December 2020)**



Source: Audit analysis of ITC records

Note: The Quality Services Division is responsible for operating HKAS, PSIB and SCL.

**Accreditation programmes of Hong Kong Accreditation Service
(31 December 2020)**

(a) HOKLAS	
1.	Calibration service
2.	Chemical testing
3.	Chinese medicine
4.	Construction materials
5.	Electrical and electronic product
6.	Environmental testing
7.	Food
8.	Forensic testing
9.	Medical testing
10.	Pharmaceutical products
11.	Physical and mechanical testing
12.	Proficiency testing providers
13.	Reference material producers
14.	Testing required by the China Compulsory Certification System
15.	Textiles and garments
16.	Toys and children's products
17.	Veterinary testing
18.	Other services (Note)
(b) HKCAS	
1.	Energy management system certification
2.	Environmental management system certification
3.	Food safety management system certification
4.	Greenhouse gas validation and verification
5.	Information security management system certification
6.	Occupational health and safety management system certification
7.	Product certification
8.	Quality management system
9.	Residential care homes (elderly persons) service providers' management system certification

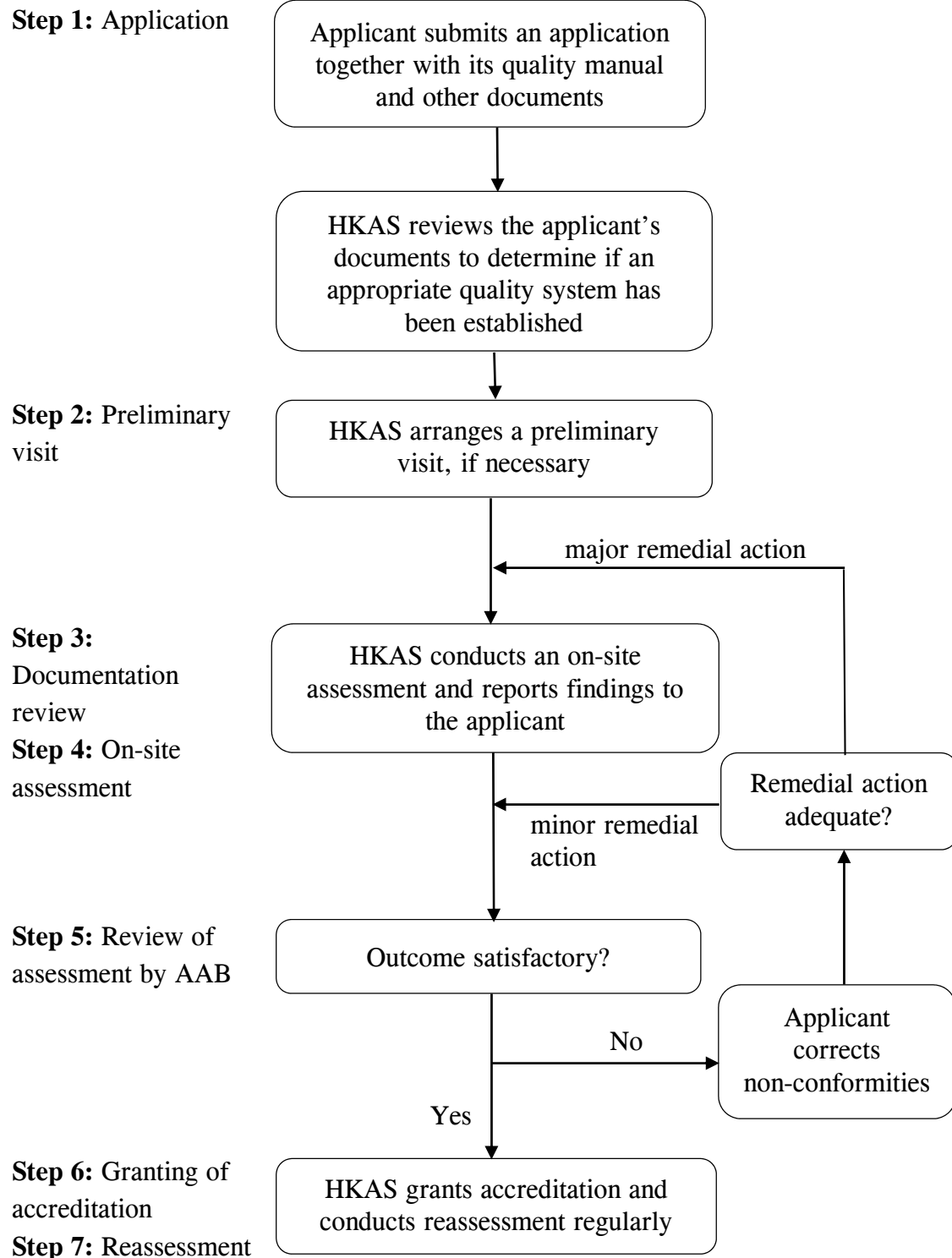
Appendix B
(Cont'd)
(para. 2.5 refers)

(c) HKIAS	
1.	Construction products
2.	Consumer products
3.	Indoor air quality inspection
4.	Scene of crime investigation

Source: Audit analysis of ITC records

Note: Other services included: (a) cigarette testing; (b) cosmetics and sterile products (microbiological tests); (c) gas appliances testing; (d) medical face mask; (e) petroleum products; and (f) sound measurement.

Accreditation procedures of Hong Kong Accreditation Service (31 December 2020)



Source: Audit analysis of ITC records

Acronyms and abbreviations

AAB	Accreditation Advisory Board
Audit	Audit Commission
B/Ds	Bureaux/departments
CAB	Conformity assessment body
CCC	China Compulsory Certification
CE	Chief Executive of the Hong Kong Special Administrative Region
CEPA	The Mainland and Hong Kong Closer Economic Partnership Arrangement
COR	Controlling Officer's Report
GLD	Government Logistics Department
HKAS	Hong Kong Accreditation Service
HKCAS	Hong Kong Certification Body Accreditation Scheme
HKCTC	Hong Kong Council for Testing and Certification
HKIAS	Hong Kong Inspection Body Accreditation Scheme
HOKLAS	Hong Kong Laboratory Accreditation Scheme
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ITC	Innovation and Technology Commission
LEP	Local Exhibition Programme
MOEP	Mainland and Overseas Exhibition Programme
PSIB	Product Standards Information Bureau
PSRC	Product Standards Resource Centre
RT-PCR	Reverse transcription-polymerase chain reaction
SCL	Standards and Calibration Laboratory
SI	International System of Units
SPRs	Stores and Procurement Regulations
T&C	Testing and certification
TFEC	Task Force on Economic Challenges

CHAPTER 5

Financial Services and the Treasury Bureau Government Logistics Department

Management of government vehicle fleet by the Government Logistics Department

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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MANAGEMENT OF GOVERNMENT VEHICLE FLEET BY THE GOVERNMENT LOGISTICS DEPARTMENT

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MANAGEMENT OF GOVERNMENT VEHICLE FLEET BY THE GOVERNMENT LOGISTICS DEPARTMENT

Executive Summary

1. The Government Logistics Department (GLD) pledges to provide government bureaux and departments (B/Ds) with professional, cost-effective and timely logistical support services in the area of transport operation and management. The main areas of GLD's work in the management of government vehicle fleet include: (a) rendering advice to B/Ds on the efficient operation and management of their vehicle fleets; (b) vetting requests for additional and replacement vehicles; (c) implementing green measures with a view to contributing to Government's policy on environmental protection; (d) encouraging the use of electric vehicles to replace the retiring ones; (e) operating a transport pool; and (f) ensuring that government drivers maintain a high standard of driving and road safety. In 2020-21, GLD's revised estimate of annual expenditure on the work in managing government vehicle fleet was about \$161.6 million, of which \$80 million (50%) was related to the procurement of additional and replacement general purpose vehicles. As at 31 December 2020, there were 6,705 vehicles in the government vehicle fleet. The Audit Commission (Audit) has recently conducted a review to examine the management of government vehicle fleet by GLD with a view to identifying areas for improvement.

Monitoring of government vehicle fleet

2. *Long time taken to complete departmental transport reviews.* As an on-going means to enhance the overall efficiency and cost-effectiveness of the government vehicle fleet, GLD conducts departmental transport reviews regularly to examine the appropriateness of the fleet size, fleet mix and usage of B/Ds allocated with government vehicles having regard to their operational needs. After each review, GLD will issue a report with recommendations and advice to the B/D concerned. As at 31 December 2020, of the 10 departmental transport reviews planned by GLD for commencement since 2015, 8 had been completed and 2 (which commenced in March and November 2020 respectively) were in progress. Among the 8 completed reviews,

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GLD had taken a long time (ranging from 15.9 to 36.1 months) to complete 7 (87.5%) of them (paras. 2.2 and 2.4).

3. ***Utilisation of departmental vehicles.*** For monitoring purposes, B/Ds are required to forward to GLD a monthly return on vehicle utilisation for vehicles allocated to them. All monthly returns submitted by B/Ds are input into the Transport Management Information System (TMIS) for meeting various management purposes (e.g. assessing the need for additional and replacement vehicles and monitoring the performance of the government vehicle fleet). To facilitate B/Ds in monitoring their vehicle fleets, GLD generates exception reports on vehicle utilisation from TMIS biannually. A vehicle is included in an exception report if during the six-month period, the kilometres run by it was 30% less than the normal kilometres run by the same type of vehicles in the government fleet, and its average idle days per month was six or more. For B/Ds with vehicles captured in the exception reports, GLD will issue an extract of the relevant reports to them, and require them to critically review the utilisation of the vehicles (paras. 2.9 and 2.10). Audit examination revealed the following areas for improvement:

- (a) ***Need to strengthen the administration of monthly returns on vehicle utilisation.*** While there is no deadline, taking into account the time required for collection of vehicle records/log books and input of data, B/Ds are normally allowed to submit the monthly returns on vehicle utilisation in two months. As at January 2021, for the monthly returns up to October 2020, 1,077 entries (involving two B/Ds) remained outstanding and the earliest entry had been outstanding for 58 months. Furthermore, Audit sample check of the data of the monthly returns for 2019 input in TMIS revealed that there were cases which might warrant further investigation by GLD (e.g. in 5,381 cases, the B/Ds concerned had reported that the vehicles had been used but there had been no fuel/electric consumption) (paras. 2.11 and 2.12); and
- (b) ***Need to improve monitoring of vehicle utilisation.*** Audit examination of the six exception reports generated by GLD covering the three-year period from 1 June 2017 to 31 May 2020 revealed the following:
 - (i) ***Long lead time required for issuing extracts of exception reports to B/Ds.*** It was GLD's practice to issue extracts of exception reports to B/Ds concerned only four months after the report period (or two months before the end of the next report period) given the

Executive Summary

time required for B/Ds to submit monthly returns on vehicle utilisation and the possible delays in submission;

- (ii) ***Significant increase in number of vehicles captured in exception reports.*** The number of vehicles captured in exception reports decreased from 198 in the March 2018 issue (for the period from 1 June 2017 to 30 November 2017) by 72 (36%) to 126 in the September 2019 issue (for the period from 1 December 2018 to 31 May 2019), and increased significantly by 173 (137%) to 299 in the September 2020 issue (for the period from 1 December 2019 to 31 May 2020); and
- (iii) ***Vehicles repeatedly captured in exception reports.*** 60 vehicles had been repeatedly captured in 4 or more of the 6 exception reports covering the three-year period from 1 June 2017 to 31 May 2020 (para. 2.14).

4. ***Need to improve reporting of performance targets included in Controlling Officer's Report.*** GLD operates a transport pool comprising several vehicle types to supplement departmental fleets and provide transport services to B/Ds with no or insufficient departmental vehicles. As at 31 December 2020, there were 48 vehicles in the transport pool, comprising 25 cars, 13 vans and 10 buses. GLD sets two performance targets on transport pool resource utilisation in its Controlling Officer's Report, namely drivers tasked daily and pool vehicles utilised daily. In the period from 2015 to 2020, GLD has fully met the two performance targets. The utilisation rates of a pool vehicle and a driver are calculated on a half-day booking session basis. In other words, if a driver was tasked or a vehicle was utilised for a period in a morning or afternoon session, the driver or the vehicle will be treated as having been tasked or utilised for the whole morning or afternoon session for performance reporting in the Controlling Officer's Report, irrespective of the length of the period. In order to enhance transparency and accountability in performance reporting, GLD needs to consider reporting its calculation basis in the Controlling Officer's Report (paras. 2.19 and 2.21 to 2.23).

5. ***Need to strengthen administration of quota system.*** GLD administers term contracts for hiring commonly-used vehicles to cater for the requirements of B/Ds. As at 31 December 2020, there were 14 awarded term contracts. To ensure that the services acquired by B/Ds will not exceed the contract requirements, a quota system

Executive Summary

is implemented. Under the quota system, a departmental quota based on B/Ds' original forecast will be allocated for implementation of each of the contracts. Unless prior approvals of GLD are obtained, the vehicle hiring services drawn from the contracts by B/Ds should not exceed the allocated departmental quotas from GLD. B/Ds which have drawn services from the term contracts should submit to GLD monthly returns on drawdown positions of the contracts concerned in the following month (paras. 2.28 and 2.29). Audit examination revealed the following:

- (a) ***Large number of outstanding monthly returns on drawdown positions.*** Based on TMIS records, as at 30 November 2020, for the monthly returns on drawdown positions (covering the period from January to October 2020) of the term contracts, 988 returns (involving 34 B/Ds) remained outstanding; and
- (b) ***Services drawn by B/Ds not in accordance with the quota system.*** According to the drawdown positions of the 14 term contracts, as at 30 November 2020, some B/Ds with no departmental quota or with departmental quotas fully utilised had drawn services without obtaining prior approvals from GLD (para. 2.30).

Procurement of vehicles

6. ***Vetting requests for additional and replacement vehicles.*** For general purpose vehicles, GLD is responsible for examining the requests for additional and replacement vehicles submitted by B/Ds to consider the procurement needs and priorities, and co-ordinate procurement within the funding available in its block vote (para. 3.2). Audit examination revealed the following areas for improvement:

- (a) ***Large number of supernumerary vehicles with cumulative retention periods of over one year.*** A supernumerary vehicle is a replaced vehicle which has reached the end of its economic life but is retained further to provide a time limited service to meet operational needs of a B/D. It is a non-established vehicle and should be scrapped once the specific purposes to retain it have been fulfilled. While GLD's guidelines state that a supernumerary vehicle should not be used further for over one year unless under very exceptional circumstances, Audit sample check of the requests for retaining 566 supernumerary vehicles approved by GLD from 2016 to 2020 revealed that the cumulative retention periods approved for 206 (36%)

Executive Summary

supernumerary vehicles were over one year (ranging from 12.1 to 70.7 months) (paras. 3.5 and 3.6); and

- (b) ***Need to consider enhancing Economic Life Model (ELM) for replacement of electric vehicles.*** GLD assesses whether vehicles are due for replacement mainly on the basis of ELM, which takes into account accumulated maintenance cost, vehicle age, kilometres run and replacement cost. According to GLD, as the capital and operating costs of electric vehicles are different from conventional vehicles, the existing ELM may not be applicable to determining the replacement cycle of electric vehicles. The number of electric vehicles in the government vehicle fleet may increase in the coming years in the light of the new requirement for procuring electric vehicles (i.e. for the procurement of private cars with not more than five seats, electric vehicles should be procured unless justifications are given and approved by Heads of B/Ds or officers at Senior Directorate level) for implementation in the first half of 2021. Also, more operational data of electric vehicles (e.g. battery's state of health and downtime rates) have been captured for analysis in the enhanced TMIS implemented since 2020. There is merit for GLD to gather more operational data of electric vehicles and consider conducting a study with a view to enhancing ELM for replacement of electric vehicles (paras. 3.4, 3.10, 3.12 and 4.5).

7. ***Procurement of general purpose vehicles.*** From 2015-16 to 2019-20, GLD incurred \$712.2 million (ranging from \$93 million in 2019-20 to \$191 million in 2017-18) on the procurement of general purpose vehicles for the government vehicle fleet. From 2016 to 2020, GLD completed 8 quotation exercises and 34 tender exercises, and awarded 48 contracts amounting to \$615.3 million for procurement of over 2,000 general purpose vehicles (para. 3.15). Audit examination revealed the following areas for improvement:

- (a) ***Long time taken to complete the procurement of vehicles.*** Audit sample check revealed that in some cases, GLD had taken a long time to complete the procurement of vehicles for the use of B/Ds (i.e. counting from the date of approving the requests for additional/replacement vehicles to the date of vehicle delivery by contractors to the B/Ds concerned), as follows:
 - (i) of 51 delivered vehicles for which the quotation/tendering exercises were conducted in the period from 2016 to 2019, the whole

Executive Summary

procurement process of 22 (43%) vehicles had taken more than three years to complete; and

- (ii) among 96 requests for additional/replacement vehicles approved by GLD in the period from 2016 to 2018 with vehicles not yet delivered by the contractors as at 31 December 2020, 5 (5%) requests had been approved by GLD for more than three years (para. 3.18); and
- (b) ***Need to improve the drawing up of user requirements.*** In drawing up the technical specifications of vehicles in a quotation/tender exercise, GLD draws up user requirements mainly by collecting information from the B/Ds concerned during the vetting exercises for additional/replacement vehicles and subsequent discussions on preparing the technical specifications. Audit sample check of 31 tender exercises conducted in the period from 2016 to 2020 revealed that in 2 exercises, the user requirements had not been fully addressed by the vehicles procured by GLD. For example, for the large saloon cars procured for deployment for the use of Heads of B/Ds by the tender exercise completed in September 2016, some B/Ds had expressed concern over the stability of the vehicles during the ride (paras. 3.21 and 3.22).

Other related issues

8. ***Decrease in number of electric vehicles in government vehicle fleet.*** Audit examined the number of electric vehicles in the government vehicle fleet in the period from 2016 to 2020 and noted that the use of electric vehicles in the Government remained on the low side, accounting for less than 4% (ranging from 2.5% in 2020 to 3.9% in 2017 and 2018) of the government vehicles. In particular, the number of electric vehicles decreased by 80 (32%) from 249 as at 31 December 2016 to 169 as at 31 December 2020. GLD needs to keep in view the use of electric vehicles as additional/replacement vehicles by B/Ds under the new requirement for procurement of government vehicles (see para. 6(b)). GLD should also continue to examine the availability of suitable electric vehicles in the market that can fully meet B/Ds' operational requirements (paras. 4.3 and 4.6).

9. ***Provision of training to government drivers.*** GLD is responsible for ensuring that government drivers (i.e. Chauffeurs, Special Drivers, Motor Drivers and other government employees who have to drive government vehicles to meet

Executive Summary

operational needs) maintain a high standard of driving and road safety through training and tests (para. 4.9). Audit examination revealed the following areas for improvement:

- (a) ***Need to explore feasibility of conducting online training courses.*** Audit examined the number of attendees of GLD's driving-related training courses and driving courses from 2016 to 2020 and noted that the number of attendees decreased significantly by 638 (57%) from 1,111 in 2019 to 473 in 2020. In particular, the number of attendees of the Safe Driving Course (see (b)) decreased significantly by 130 (83%) from 157 in 2019 to 27 in 2020. According to GLD, the significant decrease in the number of attendees of its training courses in 2020 was due to the smaller number of training courses offered in view of the outbreak of coronavirus disease (COVID-19). As online training courses have gained popularity in the last decade and have been widely adopted during the COVID-19 epidemic as a substitute in the light of the difficulties/constraints encountered in arranging on-site training, GLD should consider conducting online training courses on a trial basis for targeted government drivers with a view to evaluating the pros and cons of conducting online training courses vis-à-vis on-site training courses (paras. 4.11 and 4.12); and

- (b) ***Need to take measures to enhance the provision of training courses to targeted government drivers.*** Examples of training courses provided to government drivers by GLD included the Induction Course (for all newly recruited Special Drivers and Motor Drivers), the Safe Driving Course (for all Chauffeurs, Special Drivers and Motor Drivers to attend on a regular basis) and the Remedial Course (for drivers found blameworthy for traffic accidents). Audit examined the lists of targeted government drivers to be invited for attending the Induction Course and the Safe Driving Course as at 31 December 2020 and the blameworthy traffic accidents from 2016 to 2019, and noted that there were some targeted drivers who had not yet been invited to attend those courses. For example, from 2016 to 2019, there were 203 traffic accidents in which the Chauffeurs/Special Drivers/Motor Drivers concerned were found blameworthy. As at 31 December 2020, of those 203 cases, the drivers of 168 (83%) cases (comprising 45, 48, 40 and 35 cases in 2016, 2017, 2018 and 2019 respectively) had not yet been invited to attend the Remedial Course (paras. 4.9, 4.13 and 4.14).

Executive Summary

10. *Need to remind B/Ds to take measures to ensure compliance with GLD's requirements on working hours of government drivers.* According to GLD's guidelines on working hours of government drivers issued in September 2017, persistently long working hours have an adverse impact on the health and morale of government drivers. Frequent long working hours without sufficient rest time would render the drivers more prone to work-related accidents. To protect the occupational health of drivers and to ensure the provision of safe and reliable transport service to vehicle users, all B/Ds are advised to note the requirements that the working hours (including meal breaks) of government drivers should normally not exceed 14 hours per day, and one rest day shall be provided to government drivers in every period of seven days. Audit examination found some cases of non-compliance with GLD's requirements on working hours of government drivers (e.g. on 185 (1.6%) occasions, the working hours of the drivers of the transport pool had exceeded 14 hours per day) (paras. 4.17 and 4.18).

Audit recommendations

11. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Government Logistics should:**

Monitoring of government vehicle fleet

- (a) **consider setting time targets for completing departmental transport reviews, and explore measures to expedite the review process in future (para. 2.7(a) and (b));**
- (b) **remind B/Ds to submit monthly returns on vehicle utilisation within the required timeframe and step up follow-up actions on long-outstanding returns, and investigate and rectify any discrepancies identified in B/Ds' monthly returns (para. 2.17(a) and (b));**
- (c) **issue extracts of exception reports on vehicle utilisation for B/Ds' follow-up actions in a timely manner, and consider the merits of conducting in-depth departmental transport reviews for B/Ds with vehicles repeatedly captured in the exception reports (para. 2.17(c) and (d));**

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- (d) consider reporting the calculation basis of the performance targets on transport pool resource utilisation in the Controlling Officer's Report (para. 2.25(a));
- (e) remind B/Ds to submit monthly returns on drawdown positions in a timely manner and B/Ds with no departmental quota or with departmental quotas fully utilised to seek prior approvals from GLD before drawing services against the term contracts, where appropriate (para. 2.32(a) and (b));

Procurement of vehicles

- (f) take measures to limit the retained use of supernumerary vehicles to within one year under normal circumstances (para. 3.13(a));
- (g) gather more operational data of electric vehicles and consider conducting a study with a view to enhancing ELM for replacement of electric vehicles (para. 3.13(c));
- (h) explore measures to shorten the time taken for procurement of vehicles and deliver them in a timely manner for use by B/Ds as far as practicable (para. 3.24(a));
- (i) continue to take measures to improve the drawing up of user requirements with a view to fully meeting the operational needs of B/Ds as far as practicable (para. 3.24(c));

Other related issues

- (j) keep in view the use of electric vehicles as additional/replacement vehicles by B/Ds under the new requirement for procurement of government vehicles, and continue to examine the availability of suitable electric vehicles in the market that can fully meet B/Ds' operational requirements (para. 4.7);
- (k) consider conducting online training courses on a trial basis for targeted government drivers, and take measures to enhance the provision of the

Executive Summary

Induction Course, Safe Driving Course and Remedial Course to targeted government drivers (para. 4.15); and

- (1) regularly remind B/Ds to take appropriate measures to ensure that GLD's requirements on working hours of government drivers are complied with (para. 4.21).**

Response from the Government

12. The Director of Government Logistics agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 The Government Logistics Department (GLD) pledges to provide government bureaux and departments (B/Ds) with professional, cost-effective and timely logistical support services in, among others, the area of transport operation and management to enable them to serve the people of Hong Kong better. Under its programme area “Land Transport”, GLD aims at procuring vehicles to meet the operational needs of B/Ds at the best value for money and providing B/Ds with transport management advice and support services. The main areas of work of GLD under this programme area are to:

- (a) render advice to B/Ds on the efficient operation and management of their vehicle fleets;
- (b) vet requests for additional and replacement vehicles to ensure that their procurement is justified (Note 1);
- (c) implement green measures, including the use of liquefied petroleum gas light buses and exploring the feasibility of using more environment-friendly vehicles in the government fleet, with a view to contributing to Government’s policy on environmental protection;

Note 1: *Government vehicles are generally classified as general purpose vehicles and specialised vehicles. In broad terms, a general purpose vehicle is a vehicle designated and used primarily for the carriage of passengers and/or goods, and a specialised vehicle is a vehicle, which in addition to carrying goods, has mounted on it ancillary equipment for the purpose of performing a specific function (e.g. ambulances). GLD procures vehicles, other than specialised vehicles, for B/Ds and manages the funding through a block vote. For specialised vehicles, they are funded by votes managed by the B/Ds concerned.*

Introduction

- (d) keep abreast of the latest technological development of electric vehicles and encourage the use of electric vehicles to replace the retiring ones subject to the availability of suitable models in the market and the performance of the electric vehicles in meeting B/Ds' operational requirements;
- (e) operate a transport pool which supplements departmental fleets and provides transport services to B/Ds with no or insufficient departmental vehicles, and arrange contract hiring of commercial vehicles to provide services that are not available within the Government, or to cope with seasonal peak demand or short-term transportation needs which do not justify the procurement of additional vehicles; and
- (f) ensure that government drivers maintain a high standard of driving and road safety through training and tests.

1.3 Table 1 shows the performance indicators of GLD's work in managing the government vehicle fleet reported in the Controlling Officer's Reports for the period from 2015 to 2020.

Table 1

**Performance indicators
of GLD's work in managing government vehicle fleet
(2015 to 2020)**

Performance indicator	2015 (Number)	2016 (Number)	2017 (Number)	2018 (Number)	2019 (Number)	2020 (Number)
Additional vehicles procured	28	30	6	26	30	49
Replacement vehicles procured	342	326	515	465	208	321
Blameworthy accidents per 1,000,000 kilometres	0.9	0.9	0.9	0.9	0.9	0.9
Officers who have attended driving-related training courses during the year	992	983	963	955	956	362 (Note)
Trainees on driving courses	155	153	152	154	155	111

Source: Audit analysis of GLD records

Note: According to GLD, the number of driving-related training courses held and the number of attendees decreased significantly due to the outbreak of coronavirus disease (COVID-19) in early 2020.

1.4 Headed by the Controller (Land Transport), the Land Transport Division of GLD (see Appendix A for an extract of the organisation chart of GLD as at 31 December 2020) is responsible for the efficient and economical management and operation of the government vehicle fleet. The Land Transport Division comprises three sections, as follows:

Introduction

- (a) **Management Section.** The Management Section consists of three units, namely:
 - (i) **Vehicle Procurement Unit.** The Unit is responsible for the procedures and administration of the procurement of all general purpose vehicles in the government vehicle fleet;
 - (ii) **Technical Support and Vehicle Standards Unit.** The Unit is responsible for compiling vehicle standards and specifications for use in procurement exercises for general purpose vehicles. It is also responsible for researching and conducting trial and evaluation of new vehicles in the market; and
 - (iii) **Management and Review Unit.** The Unit is responsible for matters relating to fleet management structure, fleet size and composition, etc. It is also responsible for providing advice to B/Ds on the use and operation of their vehicle fleets, and conducting departmental transport reviews on appropriate fleet size, mix and use to meet operational needs;
- (b) **Operations Section.** The Operations Section consists of three units, namely:
 - (i) **Grade Management Unit.** The Unit is mainly responsible for administering matters relating to the Chauffeur, Special Driver and Motor Driver grades, including conduct and discipline, staff relations and training. It is also responsible for organising staff motivation schemes with a view to promoting a sense of quality land transport services;
 - (ii) **Transport Operations Unit.** The Unit is responsible for operating a fleet of vehicles at the transport pool for booking by B/Ds to supplement their departmental vehicle fleets and to cope with emergency situations; and
 - (iii) **Training and Testing Unit.** The Unit is responsible for administering the Government Driving Permit records. It is also responsible for providing driving-related training courses and

conducting driving tests for government employees who are required to drive and operate government vehicles; and

- (c) ***Support Section.*** The Support Section consists of two units, namely:
- (i) ***Vehicle Hiring Contracts Unit.*** The Unit is responsible for administering and monitoring contracts for hiring vehicles used by B/Ds to cope with their transport requirements; and
 - (ii) ***Fleet Information Management Unit.*** The Unit is responsible for administering the Transport Management Information System (TMIS — Note 2) and providing support to the internal users, including monitoring the inventory of government vehicles, utilisation records and vehicle maintenance records for management analysis. It is also responsible for keeping under review the guidelines and procedures for handling traffic accidents.

As at 31 December 2020, the Land Transport Division had a staff strength of 103 (including 3 posts in the Government Transport Manager grade, 16 posts in the Transport Services Officer grade, 21 posts in the Chauffeur grade and 35 posts in the Motor Driver grade).

Financial provision

1.5 The revised estimate of annual expenditure on the programme area “Land Transport” in 2020-21 was \$161.6 million (including \$80 million (50%) for procurement of additional and replacement general purpose vehicles).

Note 2: *TMIS is a computer-based system containing data on vehicle inventory, utilisation, downtime, maintenance cost and traffic accidents statistics, etc. According to the General Regulations, GLD is responsible for maintaining TMIS which provides essential information for the effective management of the government vehicle fleet.*

Government vehicle fleet

1.6 *Size and vehicle types.* The government vehicle fleet comprises vehicles allocated to B/Ds and those in GLD's transport pool. The number of vehicles in the government vehicle fleet increased by 263 (4%) from 6,442 as at 31 December 2015 to 6,705 as at 31 December 2020 (see Table 2). During the period, the size of GLD's transport pool remained unchanged while that of B/Ds' vehicle fleets increased modestly by 263 (4%) from 6,394 to 6,657. Photographs 1(a) to (g) show some examples of government vehicles.

Table 2

**Size of government vehicle fleet
(2015 to 2020)**

Type of vehicles	Number of vehicles						
	As at 31 December						Change between 31 December 2015 and 31 December 2020
	2015	2016	2017	2018	2019	2020	
Bus	654	661	676	691	698	721	+67 (+10%)
Car	1,500	1,518	1,499	1,556	1,564	1,577	+77 (+5%)
Cross-country vehicle	102	101	111	99	104	104	+2 (+2%)
Motorcycle	332	327	327	305	276	268	−64 (−19%)
Truck	312	318	315	318	314	316	+4 (+1%)
Van	1,417	1,419	1,405	1,360	1,372	1,367	−50 (−4%)
Specialised vehicle	2,125	2,148	2,220	2,233	2,276	2,352 (Note)	+227 (+11%)
Overall	6,442	6,492	6,553	6,562	6,604	6,705	+263 (+4%)

Source: Audit analysis of GLD records

Note: Of the 2,352 specialised vehicles, 1,328 (56%), 494 (21%) and 219 (9%) were allocated to the Hong Kong Police Force, the Fire Services Department and the Food and Environmental Hygiene Department respectively.

Introduction

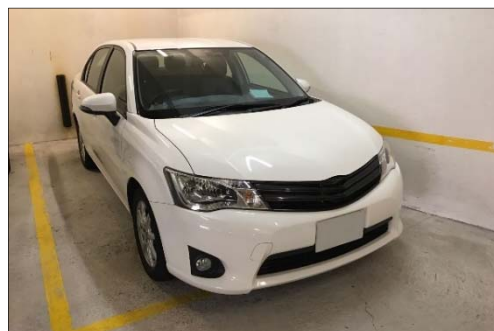
Photographs 1(a) to (g)

Examples of government vehicles

(a) Buses



(b) Cars



(c) Cross-country vehicles



(d) Motorcycles



Photographs 1(a) to (g) (Cont'd)

(e) Trucks



(f) Vans



(g) Specialised vehicles



Source: GLD records

Introduction

1.7 *Departmental Transport Officers.* B/Ds allocated with government vehicles are required to nominate a Departmental Transport Officer to be in charge of the departmental vehicle fleet. A Departmental Transport Officer is responsible for the proper use of all vehicles in the B/D concerned, their utilisation and cleanliness, and the discipline of departmental drivers.

Audit review

1.8 In November 2020, the Audit Commission (Audit) commenced a review to examine the management of government vehicle fleet by GLD, focusing on:

- (a) monitoring of government vehicle fleet (PART 2);
- (b) procurement of vehicles (PART 3); and
- (c) other related issues (PART 4).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from the Government

1.9 The Director of Government Logistics agrees with the audit recommendations.

Acknowledgement

1.10 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of GLD during the course of audit review amid the COVID-19 epidemic.

PART 2: MONITORING OF GOVERNMENT VEHICLE FLEET

2.1 This PART examines the monitoring of government vehicle fleet by GLD, focusing on:

- (a) departmental transport reviews (paras. 2.2 to 2.8);
- (b) utilisation of departmental vehicles (paras. 2.9 to 2.18);
- (c) transport pool (paras. 2.19 to 2.26); and
- (d) contract hiring of commercial vehicles (paras. 2.27 to 2.33).

Departmental transport reviews

2.2 According to the General Regulations, GLD is responsible for the efficient and economical management and operation of the government vehicle fleet. According to GLD, as an on-going means to enhance the overall efficiency and cost-effectiveness of the government vehicle fleet, departmental transport reviews are conducted regularly to examine the appropriateness of the fleet size, fleet mix and usage of B/Ds allocated with government vehicles having regard to their operational needs. After each review, GLD will issue a report with recommendations and advice to the B/D concerned.

2.3 The Management and Review Unit (see para. 1.4(a)(iii) — Note 3) conducts an annual selection exercise in every October/November in order to select B/Ds for conducting departmental transport reviews in the coming year. The selection process is as follows:

Note 3: *According to GLD, there are only two officers in the Management and Review Unit responsible for the conduct of departmental transport reviews. In addition to the conduct of reviews, the two officers are also responsible for performing other substantial duties (e.g. vetting 250 to 300 requests for additional and replacement vehicles submitted by various B/Ds during annual vetting exercises for general purpose vehicles and specialised vehicles, and providing advice and support to B/Ds).*

Monitoring of government vehicle fleet

- (a) **Initial screening.** The following criteria are adopted in the initial screening:
- (i) B/Ds to be selected should neither be in the progress of carrying out any internal organisational reviews which may have an impact on the departmental transport requirements nor in the progress of planning for any outsourcing programme or cost reduction initiatives in the coming twelve months; and
 - (ii) the time elapsed after the last departmental transport reviews conducted for B/Ds to be selected should at least be eight years; and
- (b) **Setting priorities.** B/Ds with greater saving potential will be given priority. To this end, GLD has adopted a marking scheme to set the priority, which takes account of the fleet size, accident rate, number of supernumerary vehicles (see para. 3.5), hiring expenditure and vehicle utilisation rate.

According to GLD, the selection is conducted based on past records on hand (e.g. past submissions of B/Ds for additional and replacement vehicles and observations from previous meetings with B/Ds on transport issues). If GLD intends to conduct two reviews in a year, in considering the cost and benefit of such reviews and the resources available, one of the B/Ds selected should have a sizeable vehicle fleet (i.e. over 30 vehicles) while the other one should have a comparatively smaller fleet size.

Long time taken to complete departmental transport reviews

2.4 As at 31 December 2020, of the 10 departmental transport reviews planned by GLD for commencement since 2015, 8 had been completed and 2 (which commenced in March and November 2020 respectively) were in progress. Audit notes that GLD has not set any time target for completing departmental transport reviews. Among the 8 completed reviews, GLD had taken a long time (ranging from 15.9 to 36.1 months) to complete 7 (87.5%) of them (see Table 3).

Monitoring of government vehicle fleet

Table 3

Completion of departmental transport reviews (31 December 2020)

Selected B/D	Planned year for commencement of review	Number of vehicles involved	Commencement of review by GLD	Issue of final report by GLD	Time elapsed (Month)
Correctional Services Department	2015	126	15 December 2014	12 April 2016	15.9
Lands Department	2016	167	11 December 2015	17 July 2017	19.2
Environmental Protection Department (EPD)	2016	48	23 May 2016	26 January 2018	20.1
Fire Services Department	2017	198 (Note 1)	14 December 2016	18 December 2019	36.1
Agriculture, Fisheries and Conservation Department	2017	48 (Note 2)	31 March 2017	8 March 2018	11.2
Social Welfare Department	2018	29	24 November 2017	16 April 2019	16.7
Customs and Excise Department	2018	210	18 March 2019 (Note 3)	30 December 2020	21.5
Buildings Department	2018	37	5 June 2018	4 June 2020	24.0

Source: Audit analysis of GLD records

Note 1: The review only covered general purpose vehicles in the Department.

Note 2: The review only covered motorcycles in the Department.

Note 3: The original commencement date of the review was 17 April 2018. At the request of the Customs and Excise Department, the commencement of the review was subsequently re-scheduled to early 2019, given that the Department was heavily engaged in preparing for the commissioning of three control points including the Hong Kong-Zhuhai-Macao Bridge, the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail and the Liantang/Heung Yuen Wai Boundary Control Point in 2018. In view of the postponement, GLD commenced another review for the Buildings Department in June 2018.

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2.5 Audit examined the three departmental transport reviews which had taken the longest time for completion and noted the following (see Table 4):

- (a) ***Fire Services Department.*** GLD took over 30 months to conduct the review and issue the draft report for comments by the Fire Services Department. The time taken for consultation and finalisation of report was about 6 months. As estimated by GLD, the potential capital savings and recurrent savings for the Fire Services Department arising from the implementation of GLD's recommendations would be about \$2 million and \$339,000 respectively;
- (b) ***Customs and Excise Department.*** GLD took about 21 months to conduct the review and issue the draft report for comments by the Customs and Excise Department. The time taken for consultation and finalisation of report was about 1 month. As estimated by GLD, the potential capital savings and recurrent savings for the Customs and Excise Department arising from the implementation of GLD's recommendations would be about \$3.6 million and \$1.8 million respectively; and
- (c) ***Buildings Department.*** GLD took over 21 months to conduct the review and issue the draft report for comments by the Buildings Department. The time taken for consultation and finalisation of report was about 3 months. As estimated by GLD, the potential recurrent savings for the Buildings Department arising from the implementation of GLD's recommendations would be about \$225,000.

Table 4

**Analysis of three departmental transport reviews
(31 December 2020)**

Major stage	Fire Services Department	Customs and Excise Department	Buildings Department
Commencement of review by GLD	14 December 2016	18 March 2019 (Note)	5 June 2018
Issue of draft report by GLD	27 June 2019	2 December 2020	13 March 2020
Provision of comments on draft report to GLD	18 September 2019	18 December 2020	28 May 2020
Issue of final report by GLD	18 December 2019	30 December 2020	4 June 2020

Source: Audit analysis of GLD records

Note: See Note 3 to Table 3 in paragraph 2.4.

2.6 In response to Audit's enquiry, in February 2021, GLD said that:

- (a) there were only two officers responsible for the conduct of departmental transport reviews and in addition to the conduct of reviews, they were also responsible for performing other substantial duties (see Note 3 to para. 2.3);
- (b) the time required for completing a departmental transport review might vary depending on a number of factors (e.g. the number and types of vehicles involved, the number of parking bases/depots and the complexity of the operations); and
- (c) regarding the long time taken to complete the departmental transport reviews, the reasons were as follows:

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- (i) ***Expansion of scope of reviews.*** Since May 2016, the scope of the review had been expanded to cover transport management structure and departmental practices (e.g. processing of traffic accident cases, completion of vehicle log books, monitoring and deployment of departmental transport resources and driver supervision) in addition to transport provision. Hence, despite the longer time taken, the comprehensiveness and quality of the reviews had been enhanced;
- (ii) ***Review for the Fire Services Department.*** The review commenced in December 2016 and was the first departmental transport review conducted for the Department. Since there were around 200 vehicles involved which were allocated to various Commands/Divisions and their operational modes were very different from those of other B/Ds (e.g. provision of operational staff cars to designated posts for all purposes and marshal vehicles for attending emergency duties), GLD took more time to apprehend the operations. Besides, there were several rounds of discussions with the Department after receipt of its comments on the draft report; and
- (iii) ***Reviews for the Customs and Excise Department and the Buildings Department.*** Owing to the outbreak of COVID-19 since early 2020, the time required by the two departments to respond and the time taken by GLD to obtain information, clarify and discuss with the two departments were all lengthened.

Given the complexity of departmental transport reviews for some B/Ds and having regard to the benefits achievable from the reviews (see paras. 2.2 and 2.5), GLD may wish to explore measures (e.g. by deploying additional staff) to expedite the review process in future.

Audit recommendations

2.7 Audit has recommended that the Director of Government Logistics should:

- (a) **consider setting time targets for completing departmental transport reviews;**

- (b) explore measures to expedite the departmental transport review process in future; and
- (c) consider disseminating lessons drawn from departmental transport reviews for the benefits of other B/Ds, where appropriate.

Response from the Government

2.8 The Director of Government Logistics agrees with the audit recommendations. She has said that GLD will:

- (a) set targets for completing departmental transport reviews for B/Ds with reference to their fleet size;
- (b) explore measures to expedite the departmental transport review process; and
- (c) disseminate lessons drawn from departmental transport reviews for the benefit of other B/Ds where appropriate, such as through the Central Cyber Government Office.

Utilisation of departmental vehicles

2.9 *Monthly returns on vehicle utilisation.* For monitoring purposes, B/Ds are required to forward to GLD a monthly return on vehicle utilisation for vehicles (both general purpose vehicles and specialised vehicles) allocated to them. In a monthly return on vehicle utilisation, there is one entry containing the following data for each departmental vehicle:

- (a) kilometres run;
- (b) fuel/electric consumption;
- (c) number of days used;
- (d) number of days in workshop for repair/maintenance;

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- (e) number of idle days;
- (f) number of days with no available driver; and
- (g) days off.

According to GLD, all monthly returns on vehicle utilisation submitted by B/Ds are input into TMIS for meeting various management purposes (e.g. assessing the need for additional and replacement vehicles, and monitoring the performance of the government vehicle fleet). To follow up outstanding monthly returns, GLD would issue reminders to the Departmental Transport Officers of the B/Ds concerned on a monthly basis.

2.10 ***Exception reports.*** To facilitate B/Ds in monitoring their vehicle fleets, GLD generates exception reports on vehicle utilisation from TMIS biannually. A vehicle is considered to be under-utilised substantially by GLD if it has been captured in two consecutive exception reports (i.e. covering a period of 12 months). A vehicle that meets the following criteria is included in an exception report:

- (a) the kilometres run by the vehicle was 30% less than the normal kilometres run by the same type of vehicles in the government fleet during the six-month period; and
- (b) the average idle days per month of the vehicle was six or more during the six-month period.

For B/Ds which have vehicles captured in the exception reports, GLD will issue an extract of the relevant reports to them, and require them to critically review the utilisation of the vehicles (e.g. identifying the causes of low utilisation and taking prompt corrective actions). According to GLD, for vehicles repeatedly captured in the exception reports, it will consider reducing the number of vehicles of the same vehicle type in the departmental fleets of the B/Ds concerned during the annual vetting exercise for additional and replacement vehicles, or conducting in-depth departmental transport reviews for the B/Ds concerned.

Need to strengthen the administration of monthly returns on vehicle utilisation

2.11 ***Outstanding monthly returns.*** According to GLD, while there is no deadline, taking into account the time required for collection of vehicle records/log books and input of data, B/Ds are normally allowed to submit the monthly returns on vehicle utilisation in two months. Based on GLD records, Audit noted that for the monthly returns on vehicle utilisation (up to October 2020), 1,077 entries remained outstanding as at January 2021, of which 1,076 involved 310 vehicles of the Fire Services Department (see Table 5). Taking into consideration the two-month period allowed by GLD, the earliest entry yet to be submitted had been outstanding for 58 months.

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Table 5

**Outstanding entries in monthly returns on vehicle utilisation
(January 2021)**

B/D	Fleet size as at 31 December 2020	Number of outstanding entries	Number of vehicles involved	Outstanding period for the earliest entry yet to be submitted (Note 1) (Month)
Fire Services Department (Note 2)	700	1,076	310	58
Lands Department (Note 3)	167	1	1	3
Total	867	1,077	311	NA

Source: *Audit analysis of GLD records*

Note 1: *The outstanding period was calculated taking into consideration the two-month period allowed by GLD for submission.*

Note 2: *According to the Fire Services Department, all the outstanding entries had been submitted to GLD by 15 March 2021.*

Note 3: *According to the Lands Department, its headquarters consolidated the data on monthly utilisation of 167 vehicles from individual offices and arranged each to be saved and uploaded onto TMIS. For the vehicle with outstanding entry, it was considered as a technical error as the relevant data was collated but not properly uploaded onto TMIS. The Department has undertaken to remind the relevant staff of the requirement and conduct random checks in future.*

2.12 **Data discrepancies of monthly returns.** Audit sample check of the data of the monthly returns on vehicle utilisation for 2019 input in TMIS revealed that there were cases which might warrant further investigation by GLD (see Table 6). For example:

- (a) in 256 cases, the B/Ds concerned had reported that the vehicles had been used but these vehicles had nil kilometre run;

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- (b) in 5,381 cases, the B/Ds concerned had reported that the vehicles had been used but there had been no fuel/electric consumption; and
- (c) in 327 cases, the B/Ds concerned had reported that there were no available drivers for a long period of time (26 days or more in a month).

Table 6

**Data of monthly returns on vehicle utilisation
that might warrant further investigation
(2019)**

Description	Number of cases
Vehicle being used in a month but has nil kilometre run	256
Vehicle being used in a month but has no fuel/electric consumption	5,381
Vehicle being used in a month but has few kilometres run (less than 1 kilometre per used day on average)	318
No available drivers for a long period of time (26 days or more in a month)	327
Vehicle with very high usage (over 1,000 kilometres per used day on average)	9
Incomplete data submitted	18
Total	6,309

Source: Audit analysis of GLD records

2.13 Since the generation of exception reports for identification of under-utilised vehicles is based on the data contained in the monthly returns on vehicle utilisation, it is essential for GLD to ensure that the monthly returns are timely submitted by B/Ds and that the data/information included in the returns are accurate. Audit considers that GLD needs to remind B/Ds to submit the monthly returns on vehicle utilisation within the required timeframe and step up follow-up actions on long-outstanding returns. With a view to ensuring that the data contained in the monthly returns are

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accurate, GLD needs to investigate and rectify any discrepancies identified including those mentioned in paragraph 2.12.

Need to improve monitoring of vehicle utilisation

2.14 Audit examination of the six exception reports generated by GLD covering the three-year period from 1 June 2017 to 31 May 2020 revealed the following:

- (a) ***Long lead time required for issuing extracts of exception reports to B/Ds.***
Audit noted that it was GLD's practice to issue extracts of exception reports (see para. 2.10) to B/Ds concerned only four months after the report period (or two months before the end of the next report period). According to GLD, such practice was adopted because of the time required for B/Ds to submit monthly returns on vehicle utilisation (see para. 2.11) and the possible delays in submission;
- (b) ***Significant increase in number of vehicles captured in exception reports.***
As shown in Table 7, the number of vehicles captured in exception reports decreased by 72 (36%) from 198 in the March 2018 issue to 126 in the September 2019 issue, and increased significantly by 173 (137%) to 299 in the September 2020 issue; and

Table 7

**Number of vehicles captured in exception reports
(1 June 2017 to 31 May 2020)**

Period covered in exception report	Month of issue of report extracts to B/Ds	Number of B/Ds involved	Number of vehicles captured
1 June 2017 to 30 November 2017	March 2018	13	198
1 December 2017 to 31 May 2018	September 2018	17	195
1 June 2018 to 30 November 2018	March 2019	14	157
1 December 2018 to 31 May 2019	September 2019	14	126
1 June 2019 to 30 November 2019	March 2020	15	173
1 December 2019 to 31 May 2020	September 2020	35	299

Source: Audit analysis of GLD records

- (c) ***Vehicles repeatedly captured in exception reports.*** 60 vehicles had been repeatedly captured in 4 or more of the 6 exception reports covering the three-year period from 1 June 2017 to 31 May 2020 (see Table 8).

Table 8

**Number of vehicles repeatedly captured in exception reports
(1 June 2017 to 31 May 2020)**

B/D	Number of vehicles		
	Captured in 4 reports	Captured in 5 reports	Captured in 6 reports
Civil Aid Service	—	1	—
Civil Aviation Department	1	—	—
Electrical and Mechanical Services Department (EMSD)	1	2	1
Fire Services Department	1	—	—
Food and Environmental Hygiene Department (FEHD)	1	6 (Note)	1
Water Supplies Department	1	—	1
Hong Kong Police Force	17	9	17
Total	22	18	20

60

Source: Audit analysis of GLD records

Note: For one of the vehicles which had been captured in the five exception reports for the period from 1 June 2017 to 30 November 2019, it had also been captured in the subsequent exception report for the period from 1 December 2019 to 31 May 2020, which was issued to the new user department in September 2020 because it had been on loan to that department since August 2020.

2.15 Feedback from B/Ds. For those vehicles repeatedly captured in exception reports (see Table 8 in para. 2.14(c)), in February and March 2021, some of the B/Ds provided their feedback on the low utilisation of vehicles to Audit, as follows:

- (a) **Civil Aid Service.** The vehicle captured in the five exception reports was a saloon car. It was mainly used by staff to attend to emergency situations, site operations and official meetings. In view of the fluctuating nature of the operational demand, Civil Aid Service members had been encouraged to use the vehicle for duty journeys so as to enhance its utilisation;
- (b) **EMSD.** EMSD had reviewed the utilisation of those vehicles and identified the following findings:
 - (i) the vehicle which had been repeatedly captured in four reports was a medium saloon car used by staff for conducting site inspections. In view of the fluctuating nature of the operational demand, the vehicle had been put on shared use by staff among other sections in EMSD in order to enhance its utilisation;
 - (ii) one of the two vehicles which had been repeatedly captured in five reports was a special purpose heavy-duty recovery vehicle for conducting vehicle towing services. In view of the highly fluctuating nature of the vehicle towing services needed, it was unlikely to use the vehicle every day. However, given that the vehicle was the only heavy-duty recovery vehicle in the Kowloon Workshop to cover all the regions in Kowloon and south/east part of the New Territories, it was an essential vehicle which must be ready for EMSD to deliver effective and efficient vehicle workshop services so as to meet B/Ds' operational needs and EMSD's service pledges;
 - (iii) another vehicle which had been repeatedly captured in five reports was a 11-seater large van for transporting front-line staff to various venues to carry out maintenance work. It had been due for replacement and had been replaced by a medium van in October 2020. EMSD expected that the new vehicle would better meet its operational needs with higher utilisation and it would continue to monitor the utilisation of the vehicle; and
 - (iv) the vehicle which had been repeatedly captured in six reports was a specially designed vehicle (i.e. a light truck equipped with tail lift) for delivery of bulky equipment/appliances and goods to suit EMSD's particular operational needs, including emergency

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operations to ensure effective, efficient and speedy recovery of services. Given the special operational nature of the vehicle, its operational demand was fluctuating. In order to enhance its utilisation, the vehicle had been put on shared use by staff among other sections in EMSD;

- (c) **Fire Services Department.** The vehicle (i.e. a village ambulance) was an emergency vehicle. Despite the fact that its utilisation was mainly case-driven in nature, a one-off arrangement had been made to transfer it to another fire station in November 2020 for improving its utilisation;
- (d) **FEHD.** All the eight vehicles were of motorcycle type. Due to their limited scope of use, four of them served as stand-by vehicles for relieving other vehicles in the transport pool of FEHD during scheduled maintenance and ad hoc repairs, two were used for training purposes and one was deployed to meet the transport needs of frontline staff at FEHD venues. Utilisation of these motorcycles was demand-driven and fluctuating. The remaining vehicle was in poor physical conditions and due for replacement. In order to enhance their utilisation, two motorcycles had been redeployed internally and two had been on loan to another department. FEHD was also replacing those vehicles with low utilisation rates or in poor physical conditions with other vehicle types which could provide more flexible transport services. FEHD would continue to closely monitor the deployment and utilisation of motorcycles in order to meet its operational needs; and
- (e) **Hong Kong Police Force.** These vehicles were mostly special purpose vehicles with unique operational or training functions. They were essential vehicles to ensure the operational capability and readiness of the Hong Kong Police Force, though their utilisation was subject to operational and training circumstances and hence varied significantly. Due to their specific purposes or unique functions, these vehicles could not be generally redeployed to other units for use.

2.16 In Audit's view, GLD needs to issue extracts of exception reports for B/Ds' follow-up actions in a timely manner. For B/Ds with vehicles repeatedly captured in exception reports, GLD should consider the merits of conducting in-depth departmental transport reviews.

Audit recommendations

2.17 Audit has *recommended* that the Director of Government Logistics should:

- (a) remind B/Ds to submit monthly returns on vehicle utilisation within the required timeframe and step up follow-up actions on long-outstanding returns;
- (b) investigate and rectify any discrepancies identified in B/Ds' monthly returns on vehicle utilisation, including those mentioned in paragraph 2.12;
- (c) issue extracts of exception reports on vehicle utilisation for B/Ds' follow-up actions in a timely manner; and
- (d) consider the merits of conducting in-depth departmental transport reviews for B/Ds with vehicles repeatedly captured in the exception reports.

Response from the Government

2.18 The Director of Government Logistics agrees with the audit recommendations. She has said that GLD has:

- (a) reminded B/Ds to submit the monthly returns on vehicle utilisation by the deadline. Besides, GLD will also step up follow-up actions on long-outstanding returns;
- (b) requested B/Ds concerned to provide reasons for and rectify the discrepancies identified in B/Ds' monthly returns on vehicle utilisation, including those mentioned in paragraph 2.12;
- (c) set deadline for B/Ds to submit the monthly returns on vehicle utilisation and will issue the exception reports within one month after receiving and verifying the returns from B/Ds for the reporting period; and

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- (d) updated the selection guideline for conducting departmental transport reviews for B/Ds. In addition to the other selection criteria such as fleet size, accident rate and hiring expenditure, etc., vehicles repeatedly captured in the exception reports will also be taken into account when assessing the merits of conducting in-depth departmental transport reviews for B/Ds.

Transport pool

2.19 GLD operates a transport pool comprising several vehicle types to supplement departmental fleets and provide transport services to B/Ds with no or insufficient departmental vehicles. According to GLD, the transport pool played a number of crucial roles, as follows:

- (a) operating some VIP and large saloon cars for coping with the transport requirements of VIPs, Justices of the Peace, senior government officials (Note 4) and Judges at High Court level or above;
- (b) operating cross-boundary transport service for B/Ds; and
- (c) operating an optimal fleet of emergency vehicles so as to provide swift transport support during emergency situations.

As at 31 December 2020, there were 48 vehicles in the transport pool, comprising 25 cars, 13 vans and 10 buses.

2.20 According to GLD, to book a vehicle in the transport pool, B/Ds should make an online transport booking through TMIS. There are three types of charges:

- (a) ***Charges for hiring a vehicle.*** The charges are calculated on a daily basis from the time of departure of the vehicle from the transport pool to its return to the pool;

Note 4: *According to GLD, senior government officials refer to the Chief Executive of the Hong Kong Special Administrative Region, Secretaries of Departments, Directors of Bureaux, Permanent Secretaries and Heads of Departments.*

- (b) *Charges for hiring a driver.* The charges are calculated on an hourly basis and subject to a minimum charge of five hours; and
- (c) *Charges for hiring a vehicle with driver.* The charges are calculated on an hourly basis from the time of departure of the vehicle from the transport pool to its return to the pool.

With a view to achieving full cost recovery (i.e. the charges should in general be set at levels adequate to recover the full cost of providing the transport pool services), the three charges are reviewed by GLD annually based on the planned number of vehicle hours per vehicle for each vehicle type and the planned number of working hours (including overtime hours) for each driver.

Need to improve reporting of performance targets included in Controlling Officer's Report

2.21 *Performance targets fully met.* GLD sets two performance targets on transport pool resource utilisation in its Controlling Officer's Report, namely:

- (a) drivers tasked daily; and
- (b) pool vehicles utilised daily.

In the period from 2015 to 2020, GLD has fully met the two performance targets (see Table 9).

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Table 9

Performance targets of transport pool resource utilisation (2015 to 2020)

Performance target	Target	2015 (Actual)	2016 (Actual)	2017 (Actual)	2018 (Actual)	2019 (Actual)	2020 (Actual)
Drivers tasked daily	90%	96%	97%	98%	92%	95%	98%
Pool vehicles utilised daily	88% (Note)	96%	93%	92%	93%	90%	89%

Source: GLD records

Note: The target was 86% in 2015 and has been revised to 88% since 2016.

2.22 Calculation of utilisation rates for reporting in Controlling Officer's Report. According to GLD, for reporting in the Controlling Officer's Report, the utilisation rates of a pool vehicle and a driver are calculated as follows:

(a) **Drivers tasked daily.** The utilisation rate calculation is:

$$\frac{\text{Number of morning and afternoon sessions in which the driver was tasked}}{\text{Total number of morning and afternoon sessions available for tasking in the period (excluding days off, leave days and training days of the driver)}} \times 100\%$$

(b) **Pool vehicles utilised daily.** The utilisation rate calculation is:

$$\frac{\text{Number of morning and afternoon sessions in which the vehicle was utilised}}{\text{Total number of morning and afternoon sessions available in the period (excluding workshop days, Saturdays, Sundays and general holidays)}} \times 100\%$$

In other words, if a driver was tasked or a vehicle was utilised for a period in a morning or afternoon session, the driver or the vehicle will be treated as having been

tasked or utilised for the whole morning or afternoon session for performance reporting in the Controlling Officer's Report, irrespective of the length of the period.

2.23 In response to Audit's enquiry on whether GLD will consider setting new performance indicators on the utilisation rates of pool vehicles and drivers based on the number of hours of services performed, in February 2021, GLD said that:

- (a) it had thoroughly considered the practicability of assessing the utilisation of government vehicles on an hourly basis and found it not practicable;
- (b) the calculation of utilisation rates of pool vehicles and drivers based on the number of hours of services performed was not feasible as the drivers had to perform some non-chargeable duties (e.g. cleaning and checking the vehicle before and/or after performing an order and performing standby duties at the pool after finishing an order);
- (c) having regard to the hiring or usage pattern of all vehicle users, the calculation of utilisation rates on an hourly basis was virtually impracticable, not to mention that an utilisation rate of 100% was not achievable; and
- (d) transport services were demand-driven. If a transport booking was made by a user B/D from 9:00 a.m. to 11:00 a.m., it was hardly possible for the transport pool to entertain another booking for the period up to lunch hours. GLD also needed to allow buffer for the previous transport booking to run overtime.

Given that the high percentage of transport pool resource utilisation as reported in the Controlling Officer's Report is derived on a half-day booking session basis, GLD needs to consider reporting the calculation basis as mentioned in paragraph 2.22 in the Controlling Officer's Report in order to enhance transparency and accountability in performance reporting.

2.24 *Actual revenue fell short of estimated revenue.* Audit noted that for 2018-19 and 2019-20, the actual annual revenue of the transport pool only accounted for 71.6% of the respective estimated annual revenue, which was estimated by GLD on the assumption that the transport pool resources (i.e. pool vehicles and drivers) are

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substantially utilised. In response to Audit's enquiry on whether the transport pool resources might not have been substantially utilised in view of the large discrepancies between the estimated and actual revenue, in February 2021, GLD said that the discrepancies were attributed to various factors, including:

- (a) assumptions adopted by GLD for calculating its estimated annual revenue which were not applicable to the hiring or usage pattern of all vehicle users;
- (b) the unpredictable prolonged sick leave taken by drivers; and
- (c) some vacant driver posts which were not filled in a timely manner due to unforeseen circumstances (e.g. newly recruited drivers not turning up to report for duty or early exhaustion of the waitlisted candidates, etc.).

For better financial management, GLD needs to work out a more accurate estimate of annual revenue of the transport pool, taking into account the factors mentioned above.

Audit recommendations

2.25 Audit has *recommended* that the Director of Government Logistics should:

- (a) **consider reporting the calculation basis of the performance targets on transport pool resource utilisation in the Controlling Officer's Report; and**
- (b) **work out a more accurate estimate of annual revenue of the transport pool, taking into account the factors mentioned in paragraph 2.24.**

Response from the Government

2.26 The Director of Government Logistics agrees with the audit recommendations. She has said that GLD will:

- (a) consider including the calculation basis of the performance targets relating to the transport pool resource utilisation in the Controlling Officer's Report; and
- (b) take into account the factors mentioned in paragraph 2.24 with a view to working out a more accurate estimate of annual revenue.

Contract hiring of commercial vehicles

2.27 According to the General Regulations, commercial transport may be hired for duty journeys and approved journeys between home and office only when no suitable departmental or pool transport is available. B/Ds must seek approval from GLD before hiring commercial transport (Note 5), except for vehicle types that are not available for booking at the transport pool for which the authority to hire commercial transport has been delegated to Controlling Officers.

2.28 GLD administers term contracts for hiring commonly-used vehicles (hereinafter referred to as GLD term contracts) to cater for the requirements of B/Ds. As at 31 December 2020, there were 14 awarded GLD term contracts (see Table 10). According to GLD, if the type of vehicle required is provided in the GLD term contracts, B/Ds should draw against these contracts. To ensure that the services acquired by B/Ds will not exceed the contract requirements (Note 6), a quota system is implemented as follows:

Note 5: *According to a GLD Circular of December 2020, B/Ds are required to make booking enquiries with the transport pool through TMIS. If the requested vehicle type is available in the pool but all such pool vehicles are fully booked, B/Ds can obtain an approval number issued by TMIS for hiring commercial vehicles.*

Note 6: *According to GLD, the consumption of a vehicle hiring contract since its commencement should be closely monitored because under no circumstances may the consumption of a contract exceed the original contract value as approved by the relevant tender board. If it is foreseen that the original approved contract value may not be sufficient to cover the estimated usage up to contract expiry, GLD will seek relevant approval for contract variation (i.e. increasing the contract value in accordance with the Stores and Procurement Regulations), or arrange early renewal of the contract as appropriate to ensure continuity of services to meet B/Ds' operational requirements.*

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- (a) a departmental quota based on B/Ds' original forecast will be allocated for implementation of each of the contracts;
- (b) in the event that B/Ds have not submitted their forecast for obtaining departmental quotas but wish to acquire services from the contracts or need to make adjustments to their departmental quotas allocated by GLD, the B/Ds concerned must obtain prior approval from GLD; and
- (c) unless prior approvals of GLD are obtained, the vehicle hiring services drawn from the contracts by B/Ds should not exceed the allocated departmental quotas from GLD.

For monitoring the performance of the contractors, B/Ds should notify GLD of any complaints on the contractors' unsatisfactory performance, and offer comments on the overall performance of the contractors upon request made by GLD on an annual basis.

Table 10

**GLD term contracts
(31 December 2020)**

Vehicle type	Number of contracts	Period covered	Estimated contract value (\$ million)
Saloon car	2	1 April 2020 to 31 March 2023	3.6
Multi-purpose car (self-drive)	4	1 January 2019 to 31 December 2021	52.7
Light goods vehicle	4	1 April 2019 to 31 March 2021	55.9
Coach	1	1 April 2020 to 31 March 2023	52.3
Lorry	3	1 November 2018 to 31 October 2021	37.3
Total	14	NA	201.8

Source: GLD records

2.29 B/Ds may place an order with the contractors of the GLD term contracts during normal business hours at least one day before the date on which the service is required, and confirm the order with the contractors in writing. Officers who have used the contractors' transport should make the necessary entries and sign the log sheet upon completion of each journey. The contractors will send the invoices to the B/Ds concerned for payment on a monthly basis. According to GLD's guidelines, B/Ds that have drawn services from the GLD term contracts should submit to GLD the following information:

- (a) monthly returns on drawdown positions of the contracts concerned on or before the 15th day of the following month;

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- (b) monthly returns on the number of refusal bookings if B/Ds encountered unsuccessful or refusal bookings from the contractors in the previous month;
- (c) number of surprise inspections conducted and irregularities identified during surprise inspections (Note 7) for monitoring the performance of contractors conducted by B/Ds; and
- (d) regular evaluation form on the vehicle hiring contracts.

For other vehicle hiring services arranged by B/Ds, monthly returns on the total hiring of each type of vehicles should be submitted to GLD on or before the 15th day of the following month.

Need to strengthen administration of quota system

2.30 Audit examination of GLD's administration of the quota system revealed the following issues:

- (a) ***Large number of outstanding monthly returns on drawdown positions.***
Based on TMIS records, as at 30 November 2020, for the monthly returns on drawdown positions (covering the period from January to October 2020) of the GLD term contracts, 988 returns (involving 34 B/Ds) remained outstanding; and
- (b) ***Services drawn by B/Ds not in accordance with the quota system.***
According to the drawdown positions of the 14 GLD term contracts, as at 30 November 2020, some B/Ds had drawn services without obtaining prior approvals from GLD, as follows:

Note 7: *As required by GLD, B/Ds should conduct surprise inspections on a regular basis with a view to effectively monitoring the performance of the contractors as well as ensuring the proper usage of the service by end users. If irregularities are observed, B/Ds should contact the contractors concerned for rectification and report such incidents to GLD.*

- (i) in 40 cases, services drawn by the B/Ds concerned (involving 27 B/Ds) had exceeded the departmental quotas allocated to them by GLD; and
- (ii) in 61 cases, services had been drawn by B/Ds (involving 33 B/Ds) with no departmental quota allocated by GLD.

With a view to strengthening the administration of the quota system, GLD should remind B/Ds to submit monthly returns on drawdown positions in a timely manner. For B/Ds with no departmental quota or with departmental quotas fully utilised, GLD should remind them to seek prior approvals from GLD before drawing services against the GLD term contracts, where appropriate.

Need to improve surprise inspections conducted for monitoring performance of contractors

2.31 GLD conducts surprise inspections (Note 8) at regular intervals to check if the vehicles and drivers of the contractors comply with contractual terms and specifications when performing vehicle hiring services (Note 9). According to GLD's guidelines on conducting surprise inspections, for each of the 14 GLD term contracts, at least one surprise inspection will be conducted every three months. In carrying out inspection work, priority should be given to major contracts with reference to contract value, number of vehicles required and contracts with records of complaints. Audit examined the reports of all the surprise inspections conducted for the 14 GLD term contracts up to November 2020 and noted the following issues:

Note 8: *For each inspection, GLD would select a user B/D of a contract randomly and require the contractor to provide a list of bookings for the coming four weeks. Neither the contractor nor the user B/D will know in advance which specific booking GLD will inspect.*

Note 9: *According to GLD's guidelines, the matters covered in a surprise inspection include but are not limited to: (a) whether the vehicle used by the contractor to provide the services is on the approved list; (b) the cleanliness/tidiness of the vehicle; (c) the validity of the licence of the vehicle providing the services; (d) the punctuality of the driver of the contractor and the users of the B/Ds; (e) the attire of the driver; (f) the goods element in connection with the use of light goods vehicles; (g) the proper functioning of the rear parking device of coaches; and (h) the provision of two labourers for hiring of box-type lorries.*

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- (a) ***Surprise inspections not conducted at least once in every three months.***
In 12 (86%) of the 14 GLD term contracts, there were 25 occasions of surprise inspections not conducted at least once in every three months. The time elapsed since the last inspections ranged from 3.5 to 11 months; and
- (b) ***Priority of inspection not accorded to major contracts.*** According to GLD, the number of complaints against the 14 GLD term contractors was minimal. Audit noted that in carrying out inspection work, priority had not been given to the major contracts with a higher estimated contract value, contrary to GLD's guidelines. For example:
 - (i) for the term contracts for the provision of multi-purpose cars (self-drive) for hiring, while on average, 0.65 surprise inspections per quarter had been conducted for the contract with an estimated contract value of \$3 million, only 0.52 surprise inspections per quarter had been conducted for the contract with an estimated contract value of \$24.5 million; and
 - (ii) for the term contracts for the provision of light goods vehicles for hiring, while on average, 1.5 surprise inspections per quarter had been conducted for the contract with an estimated contract value of \$8.9 million, only 1.35 surprise inspections per quarter had been conducted for the contract with an estimated contract value of \$17.5 million.

With a view to strengthening the monitoring of the contractors' performance, GLD should take measures to ensure compliance with the guidelines on conducting surprise inspections (i.e. at least one surprise inspection for each contract is conducted every three months with priority of inspection accorded to major contracts).

Audit recommendations

2.32 Audit has recommended that the Director of Government Logistics should:

- (a) **remind B/Ds to submit monthly returns on drawdown positions in a timely manner;**

- (b) **remind B/Ds with no departmental quota or with departmental quotas fully utilised to seek prior approvals from GLD before drawing services against GLD term contracts, where appropriate; and**
- (c) **take measures to ensure compliance with the guidelines on conducting surprise inspections (i.e. at least one surprise inspection for each contract is conducted every three months with priority of inspection accorded to major contracts).**

Response from the Government

2.33 The Director of Government Logistics agrees with the audit recommendations. She has said that:

- (a) GLD has increased the frequency of re-circulating the relevant GLD Circular from a half-yearly basis to a quarterly basis to B/Ds with special emphasis on the need to:
 - (i) submit the monthly returns on drawdown positions in a timely manner; and
 - (ii) seek prior approval from GLD before drawing additional services against GLD term contracts;
- (b) for long-outstanding returns, in addition to automatic reminder notifications sent by TMIS, separate reminders will be issued to the concerned B/Ds; and
- (c) the inspection schedule has been reviewed and updated. GLD will strictly adhere to the inspection frequency as stipulated in the guidelines for conducting surprise inspections with priority of inspection accorded to major contracts.

PART 3: PROCUREMENT OF VEHICLES

3.1 This PART examines the procurement of vehicles by GLD, focusing on:

- (a) vetting requests for additional and replacement vehicles (paras. 3.2 to 3.14); and
- (b) procurement of general purpose vehicles (paras. 3.15 to 3.25).

Vetting requests for additional and replacement vehicles

3.2 GLD is responsible for the procedures, administration and co-ordination of the procurement of government vehicles, as follows:

- (a) ***General purpose vehicles.*** GLD is responsible for examining the requests for additional and replacement vehicles submitted by B/Ds to consider the procurement needs and priorities, and co-ordinate procurement within the funding available in its block vote; and
- (b) ***Specialised vehicles.*** B/Ds submit their requests for additional and replacement vehicles to GLD for technical support. GLD is responsible for forwarding its recommendations to relevant bureaux for consideration.

Guidelines on vetting requests for additional vehicles

3.3 B/Ds can submit requests for additional vehicles to GLD at any time. According to GLD's guidelines, the major factors that will be considered for endorsing a request for an additional vehicle are as follows:

- (a) circumstances leading to the increase in transport needs;
- (b) changes in performance pledges entailing stronger transport support;
- (c) utilisation of existing vehicles in the B/D, particularly those within the section/unit/division concerned;

- (d) availability of other alternatives (e.g. hiring of vehicles from GLD's transport pool); and
- (e) implications for operational efficiency if the request is rejected.

Guidelines on vetting requests for replacement vehicles

3.4 ***Vetting requests for replacement vehicles.*** GLD conducts an annual vetting exercise to examine the replacement needs of government vehicles. Each year, provisional vehicle replacement lists (Note 10) are sent to B/Ds listing out their vehicles that are due for replacement (Note 11) within the coming two financial years. If vehicle replacement is considered necessary, B/Ds concerned should provide the required information to GLD for vetting. According to GLD's guidelines, the major factors that will be considered for endorsing a request for a replacement vehicle are as follows:

- (a) utilisation of the vehicle to be replaced;
- (b) utilisation of all vehicles in the B/D, particularly those within the section/unit/division concerned;
- (c) availability of drivers;
- (d) continual need for the vehicle; and
- (e) implications for operational efficiency.

Note 10: *B/Ds may also approach GLD at any time for replacement of vehicles which are not included in the replacement lists. Examples of such vehicles include those which have been prematurely disposed of or with unsatisfactory conditions.*

Note 11: *According to GLD, it assesses whether vehicles are due for replacement mainly on the basis of the Economic Life Model, which takes into account accumulated maintenance cost, vehicle age, kilometres run and replacement cost. For vehicles to which the Economic Life Model is not applicable, vehicle inspections by EMSD are required for assessing the time of replacement.*

Procurement of vehicles

In general, if the vehicle under examination or any other vehicles of similar type in the B/D are found to be under-utilised (e.g. repeatedly captured in the exception reports (see para. 2.10)), the vehicle may not be approved for replacement.

3.5 Vetting requests for supernumerary vehicle. A supernumerary vehicle is a replaced vehicle which has reached the end of its economic life but is retained further to provide a time limited service to meet operational needs (Note 12) of a B/D. It is a non-established vehicle and should be scrapped once the specific purposes to retain it have been fulfilled. According to GLD's guidelines:

- (a) as supernumerary vehicles are replaced vehicles which have reached the end of their economic lives, care should be taken to ensure their continued use will not pose a hazard or a financial burden to the Government. As such, the following safeguards, among others, need to be employed when approving a supernumerary vehicle:
 - (i) EMSD's confirmation of the roadworthiness of the supernumerary vehicle;
 - (ii) user B/D's confirmation that the operational benefits/requirements of using the vehicle beyond its economic life outweigh the financial costs to be incurred; and
 - (iii) a supernumerary vehicle should not be used further for over one year unless under very exceptional circumstances;
- (b) if a supernumerary vehicle has been used further for over one year and the operational needs still exist, another vehicle should be identified to exchange with it unless no other suitable vehicles are available or such exchange is not cost effective; and
- (c) in vetting a request for supernumerary vehicles, the GLD officers will apply the same standards as vetting requests for additional vehicles and check to

Note 12: *According to GLD's guidelines, a supernumerary vehicle may be used for a short while to serve as a stop-gap arrangement or other permitted purposes (e.g. relieving a prematurely disposed vehicle and meeting transport needs of newly created services pending acquisition of vehicles).*

ensure that, among others, overall the existing departmental fleet has been fully utilised, sparing no capacity to absorb the additional transport demands.

Need to strengthen control on retained use of supernumerary vehicles

3.6 ***Large number of supernumerary vehicles with cumulative retention periods of over one year.*** While GLD's guidelines state that a supernumerary vehicle should not be used further for over one year unless under very exceptional circumstances (see para. 3.5(a)(iii)), Audit sample check of the requests for retaining 566 supernumerary vehicles approved by GLD from 2016 to 2020 revealed that the cumulative retention periods approved for 206 (36%) supernumerary vehicles were over one year (ranging from 12.1 to 70.7 months) (see Table 11).

Table 11

**Supernumerary vehicles
with cumulative retention periods of over one year
(2016 to 2020)**

Cumulative retention period	Number of vehicles
> 1 to 2 years	136
> 2 to 3 years	55
> 3 to 4 years	11
> 4 years	4
Total	206

Source: Audit analysis of GLD records

Remarks: For the vehicle with the longest cumulative retention period, it had been retained for about 6 years.

3.7 ***No documentary evidence showing that overall utilisation of existing departmental fleets was considered when vetting requests for supernumerary vehicles.*** Audit examination of the requests (submitted by 20 B/Ds) for retaining

Procurement of vehicles

153 supernumerary vehicles approved by GLD in 2019 revealed that for 8 B/Ds, while overall their existing departmental fleets might not have been fully utilised (with average utilisation rates for 2018 (Note 13) calculated by GLD ranging from 82% to 90%) (see Table 12), GLD approved all of their requests for retaining 54 supernumerary vehicles and there was no documentary evidence showing that GLD had considered the overall utilisation of those B/Ds' departmental fleets before approving their requests.

Table 12

**Requests for supernumerary vehicles approved for 8 B/Ds
(2019)**

B/D	Fleet size as at 31 December 2019	Average utilisation rate in 2018	Number of supernumerary vehicles approved in 2019
Office of the Communications Authority	21	82%	2
Radio Television Hong Kong	24	82%	1
EMSD	207	83%	9
Agriculture, Fisheries and Conservation Department	212	84%	6
EPD	47	86%	2
Lands Department	166	88%	9
Department of Health	57	88%	5
FEHD	725	90%	20
Total			54

Source: Audit analysis of GLD records

Note 13: According to GLD, for examination of requests for supernumerary vehicles in 2019, reference was made to the 2018 utilisation data.

3.8 In February 2021, GLD informed Audit that:

- (a) from 2016 to 2020, the average annual number of supernumerary vehicles retained by B/Ds was 133, accounting for only 2% of the total number of vehicles in the government vehicle fleet;
- (b) as at 31 December 2019, there were 105 supernumerary vehicles in the government vehicle fleet. Among them, 39 were provided for relieving vehicles prematurely disposed of and 26 were provided for coping with transport need pending delivery of endorsed additional vehicles. The remaining 40 were provided to B/Ds for meeting their temporary or emergency operational needs (e.g. COVID-19 operations). GLD normally would examine requests for supernumerary vehicles on individual merits including vehicle utilisation;
- (c) according to one of the criteria adopted in exception reports of TMIS, a vehicle was considered under-utilised if the average idle days per month of the vehicle was six or more (see para. 2.10(b)). Hence, the average utilisation rates of the 8 B/Ds mentioned in Table 12 were considered acceptable because they were higher than 77% (i.e. not more than 6 idle days out of 26 days (for 6-day work week)) or 73% (i.e. not more than 6 idle days out of 22 days (for 5-day work week)); and
- (d) a departmental fleet would be considered fully utilised if it could spare no capacity to absorb the additional transport demands. For example, if the spare capacity was 20% but the additional demand was 100%, GLD might still consider approving the request because the spare capacity was unable to absorb the additional transport demand. For some usages, there was standard vehicle provision irrespective of vehicle utilisation. All in all, what mattered was not merely the utilisation rates but also the practicability of making use of existing vehicles to absorb the additional transport demands.

3.9 As supernumerary vehicles are replaced vehicles which have reached the end of their economic lives, continuing using them for a prolonged period is undesirable in view of the higher maintenance costs. GLD needs to take measures to limit the retained use of supernumerary vehicles (which are due for retirement from services) to within one year under normal circumstances. With a view to ensuring that the overall utilisation of existing departmental fleets has been duly considered

before approving requests for supernumerary vehicles, GLD should remind its staff to keep proper documentation of their consideration of the overall utilisation of departmental fleets.

Need to consider enhancing Economic Life Model for replacement of electric vehicles

3.10 According to GLD, it assesses whether vehicles are due for replacement mainly on the basis of the Economic Life Model (ELM — see Note 11 to para. 3.4). Audit noted that the use of ELM for determining vehicle replacement was recommended by a study commissioned by the then Finance Branch (now the Financial Services and the Treasury Bureau) in 1987. After completing the analyses of the economic life of all government vehicles, GLD had been adopting ELM since 2000.

3.11 Audit noted that in recent years, various studies have recommended that an integrated approach should be adopted in considering the optimal time for replacing a vehicle, taking into account a number of parameters, such as fuel costs (e.g. improvement in fuel efficiency due to technological advancement in newer vehicle models), insurance costs and obsolescence, which are not considered under the existing ELM for vehicle replacement. In response to Audit's enquiry on whether GLD had reviewed ELM, in February 2021, GLD said that:

- (a) ELM had been reviewed in 2009 and 2015 covering a number of parameters, including downtime cost and fuel cost; and
- (b) the two reviews found that both downtime cost and fuel cost should not be included in the assessment of ELM. For downtime cost, it was insignificant when compared with maintenance cost. For fuel cost, the correlation between fuel consumption rate and vehicle age or kilometres run was not significant. Moreover, the changes in the consumption rate of a vehicle also hinged on the usage pattern and the maintenance service provided for the vehicle. Hence, factoring the two elements in ELM was not suggested.

3.12 According to GLD, as the capital and operating costs of electric vehicles are different from conventional vehicles (Note 14), the existing ELM may not be applicable to determining the replacement cycle of electric vehicles. As the number of electric vehicles in the government vehicle fleet may increase in the coming years in the light of the new requirement for procuring electric vehicles (see para. 4.5) and more operational data of electric vehicles (e.g. battery's state of health and downtime rates) have been captured for analysis in the enhanced TMIS implemented since 2020, Audit considers that there is merit for GLD to gather more operational data of electric vehicles and consider conducting a study with a view to enhancing ELM for replacement of electric vehicles.

Audit recommendations

3.13 **Audit has *recommended* that the Director of Government Logistics should:**

- (a) **take measures to limit the retained use of supernumerary vehicles to within one year under normal circumstances;**
- (b) **remind GLD staff to keep proper documentation of their consideration of the overall utilisation of departmental fleets before approving requests for supernumerary vehicles; and**
- (c) **gather more operational data of electric vehicles and consider conducting a study with a view to enhancing ELM for replacement of electric vehicles.**

Response from the Government

3.14 The Director of Government Logistics agrees with the audit recommendations. She has said that GLD:

Note 14: *According to GLD, electric vehicles have higher capital cost and lower operating costs than conventional vehicles.*

Procurement of vehicles

- (a) will tighten the control on the retained use of supernumerary vehicles. GLD will approve the use of a supernumerary vehicle for over one year only under very exceptional circumstances;
- (b) has reminded its staff to keep proper documentation of their consideration of the overall utilisation of departmental fleets before approving requests for supernumerary vehicles; and
- (c) has started to collect operational data such as the state of health of batteries used in electric vehicles. When more data for electric vehicles are collected in the coming years, GLD will consider conducting a study with a view to enhancing ELM for assessing the replacement need of individual electric vehicles.

Procurement of general purpose vehicles

3.15 From 2015-16 to 2019-20, GLD incurred \$712.2 million (ranging from \$93 million in 2019-20 to \$191 million in 2017-18) on the procurement of general purpose vehicles (see Note 1 to para. 1.2(b)) for the government vehicle fleet. From 2016 to 2020, GLD completed 8 quotation exercises and 34 tender exercises (Note 15), and awarded 48 contracts amounting to \$615.3 million for procurement of over 2,000 general purpose vehicles.

3.16 For procurement by way of quotations/tendering, GLD would make reference to the user requirements collected from the B/Ds concerned in conducting research on potential vehicle models in the market. The collated user requirements and market research results would then be provided to EMSD for working out the technical specifications. Based on EMSD's advice, GLD would then prepare the quotation/tender documents for arranging quotation/tender exercises.

3.17 According to GLD, tender exercises are usually conducted for the procurement of a number of units of various types of vehicles for use by multiple

Note 15: *According to the Stores and Procurement Regulations, procurement of vehicles with a value not exceeding \$1.4 million should be conducted by way of quotations. For vehicles with a value exceeding \$1.4 million, the procurement should be conducted by way of tendering.*

B/Ds. GLD has drawn up a vehicle procurement schedule, which is updated periodically, for conducting tenders. The annual vehicle procurement schedule will be circulated to EMSD and GLD's Procurement Division for reference. After a contract has been awarded to the successful tenderer, GLD would place an order for the vehicles required, specifying the target delivery date. Vehicles would be subject to site acceptance test conducted by EMSD upon delivery by the contractor. If modifications are required as stipulated in the contracts, the modifications would be conducted before delivery of the vehicles to EMSD for acceptance.

Long time taken to complete the procurement of vehicles

3.18 Audit sample check revealed that in some cases, GLD had taken a long time to complete the procurement of vehicles for the use of B/Ds (i.e. counting from the date of approving the requests for additional/replacement vehicles to the date of vehicle delivery by contractors to the B/Ds concerned), as follows:

- (a) of 51 delivered vehicles for which the quotation/tendering exercises were conducted in the period from 2016 to 2019, the whole procurement process of 22 (43%) vehicles had taken more than three years to complete (see Table 13); and

Table 13

**Completion of procurement process for 51 vehicles
(2016 to 2019)**

Time elapsed	Number of vehicles
≤ 1 year	2 (4%)
> 1 to 2 years	3 (6%)
> 2 to 3 years	24 (47%)
> 3 to 4 years	22 (43%)
Total	51 (100%)

Source: Audit analysis of GLD records

Procurement of vehicles

- (b) among 96 requests for additional/replacement vehicles approved by GLD in the period from 2016 to 2018 with vehicles not yet delivered by the contractors as at 31 December 2020, 5 (5%) requests had been approved by GLD for more than three years (see Table 14).

Table 14

**Time elapsed since approval of requests for
96 additional/replacement vehicles not yet delivered
(31 December 2020)**

Time elapsed	Number of vehicles
> 1 to 2 years	78 (81%)
> 2 to 3 years	13 (14%)
> 3 to 4 years	5 (5%)
Total	96 (100%)

Source: Audit analysis of GLD records

3.19 In February 2021, GLD informed Audit that:

- (a) the recent increase in procurement lead time was mainly due to the increase in vehicle delivery time as advised by the suppliers. For recently awarded tenders, while the delivery time for motorcycles and cars was 9 months, the delivery time for large vehicle types (e.g. vans, buses and trucks) ranged from 15 to 17 months;
- (b) in most of the circumstances, the number of potential models for a tender was not many. In order not to affect the tender competition, GLD would not mandate a shorter delivery time than that advised by the potential suppliers during the market research;
- (c) the time required for conducting pre-tender work (e.g. conducting market research, clarifying user requirements, drawing up technical specifications and preparing tender documents) depended on various factors, such as

category of vehicles to be procured, complexity in vehicle layouts, requirement for additional features, availability of suitable vehicle models and response time from suppliers. In recent years, the pre-tender work was lengthened due to the review of the standard terms and conditions of tenders for supply of goods in 2018, the introduction of pro-innovation procurement policy in 2018 and the COVID-19 epidemic in 2020;

- (d) taking into account the time required for conducting pre-tender work and delivery time of vehicles by suppliers, the time taken from endorsement of replacement vehicles to delivery of the vehicles was about 22 to 33 months; and
- (e) in anticipation of the procurement lead time, GLD had already made use of ELM to project the vehicles to be replaced within the coming two financial years so that GLD might start vetting requests for replacement vehicles around 30 months in advance.

3.20 As only requests for additional and replacement vehicles with good justifications are approved by GLD for procurement (see paras. 3.3 and 3.4), the prolonged procurement process and non-timely delivery of those vehicles will inevitably affect the operations of the B/Ds concerned. In particular, continuing using vehicles due for replacement, which have reached the end of their economic lives, may pose a financial burden to the Government (see para. 3.5(a)). In Audit's view, GLD needs to explore measures to shorten the time taken for procurement of vehicles and deliver them in a timely manner for use by B/Ds as far as practicable. With a view to facilitating the resource planning by the B/Ds concerned for meeting their transport needs, GLD should provide an update on the progress of the procurement of vehicles to them periodically.

Need to improve the drawing up of user requirements

3.21 According to GLD, in drawing up the technical specifications of vehicles in a quotation/tender exercise, it draws up user requirements mainly by collecting information from the B/Ds concerned during the vetting exercises for additional/replacement vehicles and subsequent discussions on preparing the technical specifications.

Procurement of vehicles

3.22 Audit sample check of 31 tender exercises conducted in the period from 2016 to 2020 revealed that in 2 exercises, the user requirements had not been fully addressed by the vehicles procured by GLD:

- (a) for the large saloon cars procured for deployment for the use of Heads of B/Ds by the tender exercise completed in September 2016, some B/Ds had expressed concern over the stability of the vehicles during the ride; and
- (b) for the liquefied petroleum gas light buses procured by the tender exercise completed in June 2018, some B/Ds had expressed concern that:
 - (i) the vehicle length was too long, causing difficulty in parking and maneuvering the vehicles; and
 - (ii) the engine power of the vehicles was weak when travelling on slopes.

Audit noted that in the subsequent procurement exercises for large saloon cars and liquefied petroleum gas light buses, GLD had updated the technical specifications to address the above concerns raised by the B/Ds concerned.

3.23 In February 2021, GLD informed Audit that since late 2018, it had started conducting user satisfaction surveys by issuing feedback forms to collect user B/Ds' feedback on newly procured vehicles. In Audit's view, with a view to fully meeting the operational needs of B/Ds as far as practicable, GLD needs to continue to take measures to improve the drawing up of user requirements (e.g. consulting the B/Ds concerned about the technical specifications before including in the quotation/tender documents, and addressing the feedback collected by user satisfaction surveys).

Audit recommendations

3.24 **Audit has *recommended* that the Director of Government Logistics should:**

- (a) **explore measures to shorten the time taken for procurement of vehicles and deliver them in a timely manner for use by B/Ds as far as practicable;**

- (b) **provide an update on the progress of the procurement of vehicles to B/Ds concerned periodically with a view to facilitating their resource planning for meeting transport needs; and**
- (c) **continue to take measures to improve the drawing up of user requirements with a view to fully meeting the operational needs of B/Ds as far as practicable.**

Response from the Government

3.25 The Director of Government Logistics agrees with the audit recommendations. She has said that:

- (a) GLD will shorten the vehicle delivery time allowed in the tenders as far as practicable. Besides, GLD will initiate the examination of requests for replacement vehicles earlier with reference to the vehicle delivery time so as to facilitate the timely delivery of new vehicles;
- (b) according to the current practice, GLD will inform B/Ds concerned prior to placing orders for their additional or replacement vehicles. To facilitate B/Ds in resource planning for meeting their transport needs, GLD has started to provide an update to the B/Ds on the progress of vehicle procurement when tenders are issued and on the vehicle delivery schedule when orders are placed for their additional or replacement vehicles; and
- (c) GLD will continue to collect users' feedback on the vehicles procured, and consult B/Ds concerned about the technical specifications before including them in the quotation/tender documents with a view to fully meeting the operational needs of B/Ds as far as practicable.

PART 4: OTHER RELATED ISSUES

4.1 This PART examines other issues relating to the management of government vehicle fleet, focusing on:

- (a) use of electric vehicles (paras. 4.2 to 4.8);
- (b) provision of training to government drivers (paras. 4.9 to 4.16); and
- (c) working hours of government drivers (paras. 4.17 to 4.22).

Use of electric vehicles

4.2 As part of the Government's efforts to reduce air pollutant emissions through the use of cleaner fuel, the Chief Executive of the Hong Kong Special Administrative Region announced in his 2009-10 Policy Address to promote the use of electric vehicles. In the 2011-12 Budget Speech, the Financial Secretary announced that subject to the availability of suitable models in the market and the operational needs of B/Ds, the Government would give priority to electric vehicles when replacing government vehicles in 2011-12 and 2012-13. Against this background, GLD has been tasked to keep abreast of the latest technological development of electric vehicles and encourage the use of electric vehicles to replace the retiring ones (see para. 1.2(d)).

Use of electric vehicles in government vehicle fleet remained on the low side

4.3 ***Decrease in number of electric vehicles in government vehicle fleet.*** Audit examined the number of electric vehicles in the government vehicle fleet in the period from 2016 to 2020 and noted that the use of electric vehicles in the Government remained on the low side, accounting for less than 4% (ranging from 2.5% in 2020 to 3.9% in 2017 and 2018) of the government vehicles. In particular, the number of electric vehicles decreased by 80 (32%) from 249 as at 31 December 2016 to 169 as at 31 December 2020 (see Table 15).

Table 15

**Vehicles in government vehicle fleet
(2016 to 2020)**

As at 31 December	Number of electric vehicles	Number of non-electric vehicles	Total
2016	249 (3.8%)	6,243 (96.2%)	6,492 (100%)
2017	254 (3.9%)	6,299 (96.1%)	6,553 (100%)
2018	253 (3.9%)	6,309 (96.1%)	6,562 (100%)
2019	227 (3.4%)	6,377 (96.6%)	6,604 (100%)
2020	169 (2.5%) (Note)	6,536 (97.5%)	6,705 (100%)

Source: Audit analysis of GLD records

Note: The 169 vehicles comprised 133 cars, 23 small and medium vans and 13 motorcycles.

According to GLD, the decrease in the number of electric vehicles in the government vehicle fleet in 2020 was mainly due to the replacement of some 40 electric motorcycles of a department by non-electric vehicles, as follows:

- (a) in 2016 and 2018, there were fire incidents involving two electric motorcycles in the department;
- (b) in view of the safety concern over the battery of the electric motorcycles arising from the fire incidents, the department had indicated concern over using electric motorcycles in future; and
- (c) a batch of retiring electric motorcycles, which had reached the end of their economic lives, were replaced by non-electric vehicles.

4.4 ***GLD's efforts in encouraging the use of electric vehicles.*** According to GLD:

- (a) in order to encourage the use of electric vehicles, GLD requires B/Ds to provide reasons for not accepting the use of electric cars or medium electric vans during the annual vehicle vetting exercises. In response, B/Ds reflected that electric vehicles could not meet their operational requirements due to a number of concerns, such as the lack of charging facilities at their parking bases and/or working locations, long charging time, limited payload and size of goods compartments, and unsuitability for performing typhoon and emergency duties; and
- (b) in order to facilitate EPD in drawing up the plan for promoting the wider use of electric vehicles, GLD has all along been closely liaising with EPD and informing it of the latest development in the procurement and use of electric vehicles in the government vehicle fleet. For example, GLD had informed EPD of the long lead time required for replacing vehicle batteries and parts, and the requirements of medium charging facilities at parking bases, etc.

4.5 *New requirement for procurement of government vehicles.* According to EPD, the Government has been promoting the wider use of electric vehicles for replacing conventional vehicles and has committed to taking the lead in switching to electric vehicles. It also notes that the technology of electric private cars has improved rapidly in recent years and that more electric private car models with long driving range and shorter charging time have been introduced to the market. Audit noted that EPD had planned to update the green specifications of items on the Government procurement list for implementation by B/Ds in the first half of 2021. In particular, for the procurement of private cars with not more than five seats, electric vehicles should be procured unless justifications are given and approved by Heads of B/Ds or officers at Senior Directorate level.

4.6 Audit considers that GLD needs to keep in view the use of electric vehicles as additional/replacement vehicles by B/Ds under the new requirement for procurement of government vehicles as mentioned in paragraph 4.5. GLD should also continue to examine the availability of suitable electric vehicles in the market that can fully meet B/Ds' operational requirements.

Audit recommendations

4.7 Audit has *recommended* that the Director of Government Logistics should:

- (a) keep in view the use of electric vehicles as additional/replacement vehicles by B/Ds under the new requirement for procurement of government vehicles as mentioned in paragraph 4.5; and**
- (b) continue to examine the availability of suitable electric vehicles in the market that can fully meet B/Ds' operational requirements.**

Response from the Government

4.8 The Director of Government Logistics agrees with the audit recommendations. She has said that GLD:

- (a) has all along been closely liaising with and keeping EPD informed of the latest development in the procurement and use of electric vehicles in the government vehicle fleet so as to facilitate EPD in devising strategy for promoting the wider use of electric vehicles. GLD will keep in view the use of electric vehicles as additional/replacement vehicles by B/Ds under the new requirement for procurement of government vehicles as mentioned in paragraph 4.5; and**
- (b) will keep on collecting information from B/Ds on their various operational needs, examine the availability of suitable electric vehicle models in the market that can fully meet B/Ds' operational requirements and pass the information to B/Ds for their consideration.**

Provision of training to government drivers

4.9 GLD is responsible for ensuring that government drivers (i.e. Chauffeurs, Special Drivers, Motor Drivers and other government employees who have to drive government vehicles to meet operational needs) maintain a high standard of driving

Other related issues

and road safety through training and tests (Note 16). The courses provided by GLD are as follows:

- (a) ***Driving-related training courses.*** The courses include:
 - (i) ***Induction Course.*** The Induction Course provides lectures on the responsibilities of government drivers, GLD's organisation structure and posting policy, the Civil Service Regulations, traffic regulations, handling of traffic accidents involving government vehicles, conduct on anti-corruption and environmental protection policies. All newly recruited Special Drivers and Motor Drivers are invited to attend this Course (Note 17);
 - (ii) ***Safe Driving Course.*** The Safe Driving Course consists of theoretical and practical modules, and aims at enhancing drivers' knowledge on occupational safety and health, safe/defensive driving, traffic regulations and the concept of environmental protection. All Chauffeurs, Special Drivers and Motor Drivers are expected to attend this Course on a regular basis. GLD will invite those staff whose last enrolment was five or more years ago to attend this Course again;
 - (iii) ***Remedial Course.*** The Remedial Course is of practical nature and arranged for drivers who have been involved in traffic accidents. The objective of the Course is to enable the drivers to have a better understanding of the nature of traffic accidents and to develop a professional and safe driving manner in order to prevent recurrence of similar accidents. If GLD considers that there is a training need

Note 16: *According to GLD, as and when required, driving tests are arranged for government employees (other than Chauffeurs, Special Drivers and Motor Drivers) who have to obtain Government Driving Permits for driving government vehicles arising from operational needs.*

Note 17: *According to GLD, since Chauffeurs are recruited through in-service recruitment, they are not invited to attend this Induction Course. Instead, they will be invited to attend another Induction Course tailor-made for them, which mainly focuses on etiquette to serve the passengers.*

for a government driver (Note 18), it will contact the B/D of the driver concerned for arranging the driver to attend a tailor-made Remedial Course; and

- (iv) ***Other driving-related training courses.*** All government drivers can apply for these courses. Examples of courses include the Refresher Course (Note 19), cross-boundary drivers training and various training courses for introducing newly-procured vehicles;
- (b) ***Driving courses.*** According to GLD, these practical courses are mainly for government drivers other than Chauffeurs, Special Drivers and Motor Drivers. Attendees of such courses have to pass a test before they are qualified to drive the government vehicles for meeting operational needs; and
- (c) ***Other training courses.*** Other training courses are for Chauffeurs, Special Drivers and Motor Drivers. Examples include the Workplace English Course, the Induction Course for Chauffeurs (see Note 17 to para. 4.9(a)(i)) and occupational safety and health training workshop.

4.10 In January 2021, GLD informed Audit that:

- (a) training requirement was not set for Chauffeurs, Special Drivers and Motor Drivers (i.e. GLD would not specify whether they shall attend certain types of training courses within certain timeline). The reasons were as follows:
 - (i) it was impracticable to require Chauffeurs, Special Drivers and Motor Drivers to fully comply with strict training requirements because it was up to B/Ds concerned to decide whether those staff

Note 18: *According to GLD, generally, a driver who was found blameworthy for a traffic accident will be considered as having a training need for attending the Remedial Course. GLD identifies the driver's training need by analysing the causes of the traffic accident.*

Note 19: *According to GLD, the Refresher Course is a one-day course which will be arranged at the request of B/Ds to restore and enhance the driving skills and driving manner of government drivers.*

Other related issues

would be released for training courses subject to exigencies of the service; and

- (ii) GLD needed flexibility in the provision of training courses because of limited teaching resources. The driving-related training courses and driving courses were mainly delivered by three teaching staff of the Training and Testing Unit, who were responsible for providing training courses to many potential attendees (i.e. about 2,300 Chauffeurs, Special Drivers and Motor Drivers, and hundreds of other government drivers) and performing other duties (e.g. being examiners of recruitment driving tests); and
- (b) for Chauffeurs, Special Drivers and Motor Drivers who had been invited but subsequently did not attend the training courses (see para. 4.9(a)), GLD would follow up with B/Ds concerned to reschedule the training courses.

Need to explore feasibility of conducting online training courses

4.11 Audit examined the number of attendees of GLD's driving-related training courses and driving courses from 2016 to 2020 and noted that the number of attendees decreased significantly by 638 (57%) from 1,111 in 2019 to 473 in 2020 (see Table 16). In particular, the number of attendees of the Safe Driving Course decreased significantly by 130 (83%) from 157 in 2019 to 27 in 2020. According to GLD, the significant decrease in the number of attendees of its training courses in 2020 was due to the smaller number of training courses offered in view of the outbreak of COVID-19.

Table 16

**Number of attendees of
driving-related training courses and driving courses
(2016 to 2020)**

Year	Number of attendees					
	Driving-related training courses				Driving courses	Total
	Induction Course	Safe Driving Course	Remedial Course (Note 2)	Other driving-related training courses		
2016	162 (Note 1)	200	64	557	153	1,136
2017	129	68	36	730	152	1,115
2018	173 (Note 1)	212	39	531	154	1,109
2019	56	157	71	672	155	1,111
2020	78	27	123	134	111	473

Source: Audit analysis of GLD records

Note 1: The numbers in 2016 and 2018 included 12 and 13 attendees, respectively, of the Induction Course for Chauffeurs (see para. 4.9(c)).

Note 2: According to GLD, due to the need for social distancing amidst the outbreak of COVID-19, it suspended most of the training courses which involved a large group of trainees. Instead, it focused on conducting training courses which involved a smaller group, such as the Remedial Course which normally involved two trainees in each course. This accounted for the substantial increase in the number of attendees of the Remedial Course in 2020 as compared with the previous years.

4.12 In response to Audit's enquiry on whether GLD had arranged online training courses to supplement on-site training courses, in January 2021, GLD informed Audit that:

Other related issues

- (a) Chauffeurs, Special Drivers and Motor Drivers had usually not been provided with computer equipment and access to the Internet; and
- (b) it considered that the face-to-face teaching and sharing mode was well-received while teaching through online mode might discount the effectiveness of delivering training courses.

Audit notes that online training courses have gained popularity in the last decade and have been widely adopted during the COVID-19 epidemic as a substitute in the light of the difficulties/constraints encountered in arranging on-site training. In order to evaluate the pros and cons of conducting online training courses vis-à-vis on-site training courses, GLD should consider conducting online training courses on a trial basis for targeted government drivers. This will help GLD identify driving-related training courses which can be efficiently delivered in online mode.

Need to take measures to enhance the provision of training courses to targeted government drivers

4.13 Audit examination of the lists of targeted government drivers to be invited for attending the Induction Course and the Safe Driving Course (Note 20) as at 31 December 2020 revealed the following issues:

- (a) **Induction Course.** 45 new Special Drivers and 60 new Motor Drivers had not yet been invited to attend the Induction Course. Among those 105 drivers, 1, 8 and 96 reported duty in 2018, 2019 and 2020 respectively; and
- (b) **Safe Driving Course.** Of the 93 Chauffeurs, 242 Special Drivers and 1,993 Motor Drivers:
 - (i) 3 (3%) Chauffeurs, 1 (0.4%) Special Driver and 58 (3%) Motor Drivers who were recruited five to nine years ago and had never attended the Safe Driving Course had not yet been invited to attend the Course; and

Note 20: *According to GLD, staff who will retire within six years will not be invited to attend the Safe Driving Course.*

- (ii) 14 (15%) Chauffeurs, 8 (3%) Special Drivers and 229 (11%) Motor Drivers with last enrolments being five to seven years ago had not yet been invited to attend the Course again.

4.14 For the Remedial Course, Audit examined the blameworthy traffic accidents from 2016 to 2019 and noted the following issues:

- (a) ***Remedial Course for Chauffeurs, Special Drivers and Motor Drivers.*** From 2016 to 2019, there were 203 traffic accidents in which the Chauffeurs/Special Drivers/Motor Drivers concerned were found blameworthy. As at 31 December 2020, of those 203 cases, the drivers of 168 (83%) cases (comprising 45, 48, 40 and 35 cases in 2016, 2017, 2018 and 2019 respectively) had not yet been invited to attend the Remedial Course. According to GLD, of the 168 cases, 124 involved the drivers of FEHD, which was responsible for providing the Remedial Course to its drivers (Note 21); and
- (b) ***Remedial Course for other government drivers.*** From 2016 to 2019, there were 140 traffic accidents in which the government drivers were found blameworthy. According to GLD, of those 140 cases, the drivers of 10 cases have attended the Remedial Course arranged by GLD, while the drivers of the remaining 130 cases will attend the Remedial Course arranged by GLD (68 cases) and the B/Ds concerned (62 cases) respectively.

With a view to ensuring that government drivers maintain a high standard of driving and road safety, GLD needs to take measures to enhance the provision of the Induction Course, Safe Driving Course and Remedial Course to targeted government drivers.

Note 21: *According to FEHD, due to the outbreak of COVID-19 since January 2020 and the need to maintain social distancing, FEHD had reduced the number and scale of driving-related training courses, including the Remedial Course. As at 15 March 2021, FEHD had arranged 76 drivers concerned to attend the in-house Remedial Course and would arrange 27 drivers to attend the Course by the third quarter of 2021. For the remaining 21 drivers, 17 were no longer working in the Government and 4 had been referred to GLD for arranging the Remedial Course as they had been posted to other B/Ds.*

Audit recommendations

4.15 **Audit has *recommended* that the Director of Government Logistics should:**

- (a) **consider conducting online training courses on a trial basis for targeted government drivers; and**
- (b) **take measures to enhance the provision of the Induction Course, Safe Driving Course and Remedial Course to targeted government drivers.**

Response from the Government

4.16 The Director of Government Logistics agrees with the audit recommendations. She has said that:

- (a) GLD has started exploring suitable training courses which might be delivered to drivers through online mode on a trial basis; and
- (b) for the Induction Course, GLD will explore the possibility of arranging online training courses for new drivers. GLD will also consider redeploying resources so that the Driving Instructors can be released to conduct more Safe Driving Courses and Remedial Courses.

Working hours of government drivers

4.17 According to the GovHK website (Note 22), the Government has been putting much effort in enhancing and promoting road safety. In particular, professional drivers are advised to pay attention to occupational health in view of long hours of driving on the roads. According to GLD, the standard working hours of a Chauffeur/Special Driver/Motor Driver are 45 hours net per week (excluding meal break). According to GLD's guidelines on working hours of government drivers

Note 22: *The GovHK website is the one-stop portal of the Government with the main content provided by participating B/Ds, featuring those most sought-after public information and services to make them easier to access and use by members of the public.*

issued in September 2017, persistently long working hours have an adverse impact on the health and morale of government drivers. Frequent long working hours without sufficient rest time would render the drivers more prone to work-related accidents. To protect the occupational health of drivers and to ensure the provision of safe and reliable transport service to vehicle users, all B/Ds are advised to note the following requirements:

- (a) the working hours (including meal breaks) of government drivers should normally not exceed 14 hours per day; and
- (b) one rest day shall be provided to government drivers in every period of seven days.

Need to remind B/Ds to take measures to ensure compliance with GLD's requirements on working hours of government drivers

4.18 In January 2021, GLD informed Audit that B/Ds had not been required to submit returns to GLD on compliance with the two requirements on working hours of government drivers (see para. 4.17). Audit examination found non-compliance with GLD's requirements on working hours of government drivers, as follows:

- (a) ***Transport pool drivers.*** As at 31 October 2020, there were 20 Chauffeurs and 37 Motor Drivers in the transport pool (Note 23). Audit examination of the monthly work records of the Chauffeurs and Motor Drivers in the transport pool from January to October 2020 revealed that:
 - (i) there were 185 (1.6%) occasions on which the working hours of the drivers had exceeded 14 hours per day (see Table 17); and

Note 23: *There was no Special Driver in the transport pool.*

Table 17

**Analysis of working hours of transport pool drivers
(January to October 2020)**

Transport pool driver	Working hours per day				
	≤ 14 hours	> 14 to 16 hours	> 16 to 18 hours	> 18 hours	Total
	(Number of occasions)				
Chauffeur	3,965	51	22	5	4,043
Motor Driver	7,593	87	13	7	7,700
Total	11,558	138	35	12 (Note)	11,743

185 (1.6%)

Source: Audit analysis of GLD records

Note: According to GLD, on the occasion with the longest working hours, the Motor Driver had worked 24 hours involving stand-by duties. The Motor Driver, upon the announcement of the first confirmed case of COVID-19 in Hong Kong in January 2020, was urgently assigned to stand-by at the transport pool to provide emergency transport in case of need.

- (ii) there were 392 (15.3%) occasions on which the drivers had not been provided one rest day in every period of seven days (see Table 18); and

Table 18

**Analysis of number of consecutive working days
by transport pool drivers
(January to October 2020)**

Transport pool driver	Rest days provided in accordance with GLD's requirement	Number of consecutive working days without any rest day			
		7 to 8 days	9 to 10 days	> 10 days	Total
		(Number of occasions)			
Chauffeur	679	117	94	30	920
Motor Driver	1,498	100	30	21	1,649
Total	2,177	217	124	51 (Note)	2,569

392 (15.3%)

Source: Audit analysis of GLD records

Note: Regarding the two occasions with the longest number of consecutive working days without any rest day, the two Motor Drivers had worked consecutively for 15 days. According to GLD, as the two Motor Drivers possessed the relevant cross-boundary licence, they were assigned to provide urgent cross-boundary transport services to delegations led by senior government officials.

- (b) **Government drivers in B/Ds.** According to GLD, while B/Ds are responsible for assigning tasks and managing the overtime work of their drivers, they have been advised to observe GLD's requirements on working hours of government drivers. Since January 2020, for assessing the effectiveness of the four new Chauffeur grade posts created in the transport pool in 2019-20 for the provision of relief services to B/Ds, GLD had required B/Ds to submit monthly returns on the number of overtime hours undertaken by their Chauffeurs. Based on the monthly returns for 2020 from B/Ds, GLD found that there were a number of occasions on which the Chauffeurs (including the Chauffeurs in the transport pool) had

Other related issues

performed over 150 hours of overtime work in a month (Note 24) (see Table 19).

Table 19

**GLD's analysis of overtime work undertaken by Chauffeurs
(2020)**

Month	Number of Chauffeurs analysed	Number of Chauffeurs who had undertaken overtime work		
		> 150 to 180 hours	> 180 hours	Total
January	86	7	6	13
February	94	4	6	10
March	92	7	1	8
April	92	3	2	5
May	90	6	3	9
June	91	7	3	10
July	93	5	3	8
August	92	4	1	5
September	90	7	2	9
October	90	4	3	7
November	90	4	3	7
December	93	4	3	7
Total	1,093	62	36	98

Source: GLD records

Note 24: According to GLD, B/Ds will be reminded of the availability of relief driver service provided by the transport pool if their Chauffeurs have performed overtime work for over 150 hours in a month.

4.19 In February 2021, GLD informed Audit of the following:

- (a) ***Working hours of transport pool drivers.*** Given that transport services were demand-driven, the need to work more than 14 hours hinged on the operational exigencies of the user B/Ds concerned. In particular:
 - (i) ***Chauffeurs.*** Chauffeurs in the transport pool were required to provide leave relief service to other B/Ds. As their working hours were largely hinged on the operational requirements of the vehicle users, there would be occasions on which the drivers had to work more than 14 hours. Although there were only a few occasions (see Table 17 in para. 4.18(a)) on which the drivers had worked more than 14 hours, GLD would regularly remind B/Ds to take appropriate actions to ensure compliance with the requirements on working hours of the Chauffeurs in the transport pool; and
 - (ii) ***Motor Drivers.*** As the Motor Drivers had been engaged in providing quarantine-related transport services (Note 25) since January 2020, the period from January to October 2020, which fell on the outbreak of COVID-19, was not a representative one that could truly reflect the normal working hours of the Motor Drivers in the transport pool;
- (b) ***Consecutive working days by transport pool drivers.*** The shift pattern of Chauffeurs and Motor Drivers in the transport pool was five days a week (with conditioned hours being 45 net a week). In particular:
 - (i) ***Chauffeurs.*** In order to provide backup relief services for Chauffeurs working in other B/Ds and transport services to the Judges at High Court level or above, the Chauffeurs in the transport pool had to work seven days in one week and then five days in the

Note 25: *According to GLD and the Department of Health, the quarantine-related transport services included: (a) conveyance of confinees to quarantine centres and delivery of specimens to laboratories in which the drivers could not be released until having completed the last transport order of conveyance/specimen delivery; (b) provision of transport services for the Department of Health to the airport for the Wuhan returnees operations during which there were delays in flight schedule; and (c) provision of cross-boundary services.*

subsequent week on an alternate basis. In any case, they would be given three rest days in any two weeks; and

- (ii) **Motor Drivers.** The period from January to October 2020, which fell on the outbreak of COVID-19, was not a representative one that could truly reflect the normal number of working days of the Motor Drivers in the transport pool. The Motor Drivers of the transport pool used to work 5-day week and 10-hour shift per day (including meal break). They would have two rest days in a week normally. However, due to the outbreak of COVID-19 since January 2020, they had to work 6 days a week and 12-hour shift per day, and change day and night shifts on a monthly basis. There might be occasions on which the drivers were not given one rest day in a 7-day period when they changed shift in the middle of the week. In any case, they would be given at least two rest days in any two weeks; and
- (c) **Government drivers in B/Ds.** Heads of Departments were responsible for the daily management of drivers. They had the responsibility to determine the staff complement required to deliver departmental services efficiently and effectively. Overtime work might be undertaken only when it was unavoidable. It was the duty of the Heads of Departments to ensure that overtime work was kept to the absolute minimum compatible with operational requirements, and that at all times it was strictly controlled and properly supervised in accordance with the relevant Civil Service Regulations. As such, instead of imposing restrictions on B/Ds' staff deployment for meeting their operational needs, it would be more appropriate for GLD to remind B/Ds to take measures to ensure compliance with the requirements on working hours of government drivers.

4.20 Regarding transport pool drivers, Audit noted that GLD's requirements on working hours of government drivers were generally complied with by the Motor Drivers of the transport pool on most of the occasions (i.e. about 99% for the requirement on the number of working hours per day and 91% for the requirement on the arrangement of rest day) from January to October 2020. Despite this, there were still some cases involving long working hours of Motor Drivers (see Tables 17 and 18 in para. 4.18). According to GLD, this might be attributable to the engagement of the Motor Drivers in providing quarantine-related transport services due to the outbreak of COVID-19 in early 2020 (see para. 4.19(a)(ii)). In order to protect the

occupational health of drivers and to ensure the provision of safe and reliable transport services to vehicles users (see para. 4.17), GLD needs to regularly remind B/Ds to take appropriate measures to ensure that its requirements on working hours of government drivers are complied with.

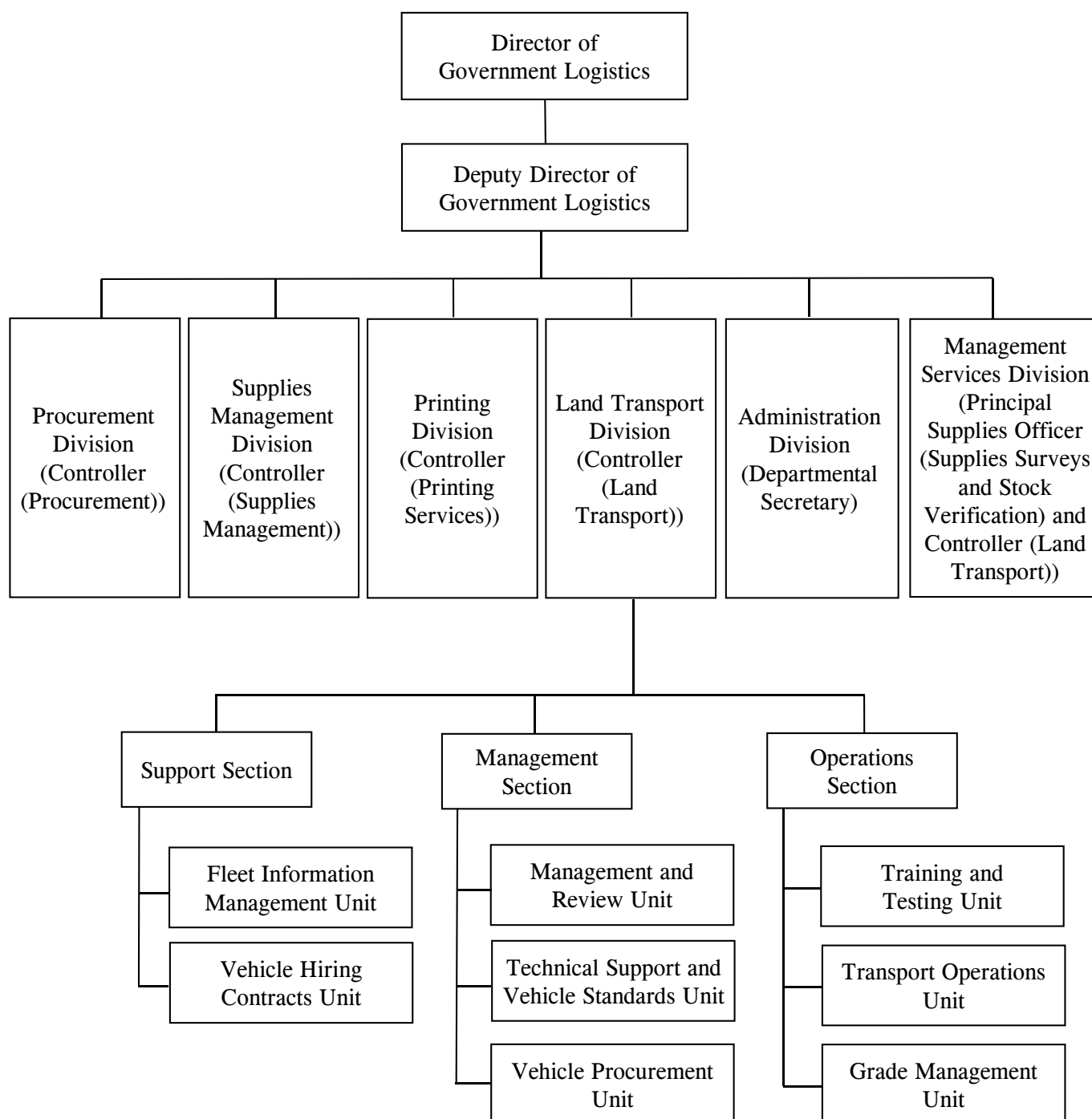
Audit recommendation

4.21 **Audit has *recommended* that the Director of Government Logistics should regularly remind B/Ds to take appropriate measures to ensure that GLD's requirements on working hours of government drivers are complied with.**

Response from the Government

4.22 The Director of Government Logistics agrees with the audit recommendation. She has said that GLD will remind B/Ds regularly to take appropriate actions to comply with GLD's requirements on working hours of government drivers.

**Government Logistics Department:
Organisation chart (extract)
(31 December 2020)**



Source: GLD records

Acronyms and abbreviations

Audit	Audit Commission
B/Ds	Government bureaux and departments
ELM	Economic Life Model
EMSD	Electrical and Mechanical Services Department
EPD	Environmental Protection Department
FEHD	Food and Environmental Hygiene Department
GLD	Government Logistics Department
TMIS	Transport Management Information System

CHAPTER 6

**Transport and Housing Bureau
Civil Engineering and Development Department**

**Site formation and associated
infrastructure works for development near
Choi Wan Road and Jordan Valley**

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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SITE FORMATION AND ASSOCIATED INFRASTRUCTURE WORKS FOR DEVELOPMENT NEAR CHOI WAN ROAD AND JORDAN VALLEY

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SITE FORMATION AND ASSOCIATED INFRASTRUCTURE WORKS FOR DEVELOPMENT NEAR CHOI WAN ROAD AND JORDAN VALLEY

Executive Summary

1. In 1996, a site with an area of about 35 hectares (ha) near Choi Wan Road and Jordan Valley in East Kowloon was identified as a potential site for boosting housing supply. In October 1998, the feasibility of the proposed housing development at the site was confirmed. The Transport and Housing Bureau was the policy bureau for the planned development and the Civil Engineering and Development Department (CEDD) was the works agent responsible for carrying out site formation and associated infrastructure works for the development near Choi Wan Road and Jordan Valley (the Project).

2. Between June 1997 and July 2018, the Finance Committee (FC) of the Legislative Council and the Secretary for Financial Services and the Treasury (under delegated authority from FC) approved a total funding of \$2,084 million for the Project. There were two consultancies for the Project (i.e. one for the planning and engineering feasibility study and another one for the site investigation, design and construction supervision work), which were awarded to the same consultant (Consultant X). Three works contracts (Contracts A to C) were awarded between November 2001 and January 2007 for implementing the Project. In the event, the Project was completed in October 2010 and the residential sites under the Project were used for public rental housing development. As of October 2020, the Government had incurred \$2,057.4 million (99% of \$2,084 million) for the Project. The Audit Commission (Audit) has recently conducted a review to examine CEDD's work in managing the implementation of the Project.

Contractual disputes under Contract A

3. Contract A mainly involved the excavation by blasting of about 9 million cubic metres of in-situ materials and formation of building platforms of about 20 ha

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and associated slopes and retaining walls. In November 2001, CEDD awarded Contract A to Contractor A at a contract sum of \$1,338 million. The contract works were completed in December 2006. There were contractual disputes under Contract A, comprising claims from Contractor A and counterclaims against Contractor A (Contract A disputes). In November 2018, CEDD entered into a settlement agreement with Contractor A, under which the Government paid \$32 million to Contractor A to settle all disputes and all arbitrations (i.e. including claims from Contractor A and counterclaims against Contractor A) under Contract A on a non-admission of liability basis. The account of Contract A was finalised in February 2019 and the total contract expenditure was \$1,701.9 million (paras. 2.2 to 2.4 and 2.7).

4. ***Scope for improvement in handling of disposal materials.*** Contract A disputes included Contractor A's claim relating to handling of disposal materials. Under Contract A, Contractor A was required to transport the excavated disposal materials from the development site to a site in Kai Tak (Kai Tak site) for delivery to 10 disposal sites. The disposal materials could be temporarily stockpiled at the Kai Tak site to suit Contractor A's disposal operation or the collection programme of disposal sites. Contractor A contended that CEDD was not able to arrange acceptance of disposal materials from disposal sites in a timely manner and claimed for additional payment for stockpiling and handling of disposal materials at the Kai Tak site. According to Consultant X, from early 2003 to May 2005, the demand for disposal materials produced under Contract A was continuously less than the supply, resulting in an accumulation of disposal materials in the stockpile areas at the Kai Tak site, and Contractor A's claim was considered valid. According to CEDD: (a) Contractor A's claim could have been mitigated if the forecast on the generation and demand of fill materials had been reviewed and updated to enhance accuracy and facilitate formulating the subsequent disposal arrangement in a timely manner; and (b) related control measures were subsequently enhanced in August 2011 (after the award of Contract A). In Audit's view, in implementing a works contract involving excavation and handling of disposal materials in future, CEDD needs to closely monitor the effectiveness of the enhanced control measures for the management of disposal materials (paras. 2.8 and 2.10 to 2.14).

5. ***Different interpretations of contract documents for valuation of concrete buttress works.*** Contract A disputes also included Contractor A's claim relating to the valuation of concrete buttress works (for slope stabilisation). The Bills of Quantities (BQ) items relating to the construction of concrete buttresses were grouped under a composite heading "In-situ Concrete (For baffle wall, debris trap and concrete

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buttress)” with BQ rates for different types of concrete. Regarding the valuation of concrete buttress works involving one type of concrete, Contractor A disagreed with the BQ rate applied by Consultant X for measuring the concrete buttress works involving this type of concrete and claimed for additional payment on top of the amount certified by Consultant X. According to CEDD: (a) Contractor A’s claim arose from different contractual interpretations on the applicability of particular BQ items in valuing the concrete buttress works involving this type of concrete; (b) the root cause was due to inconsistency between contract drawings (which showed another type of concrete for constructing concrete buttresses) and BQ; and (c) further guidelines on checking the completeness and accuracy of BQ and related documents were subsequently provided in 2014 (after the award of Contract A). In Audit’s view, in preparing documents for a works contract in future, CEDD needs to take measures to critically vet contract documents (e.g. BQ items under a composite heading) in accordance with the related guidelines (paras. 2.8 and 2.15 to 2.19).

6. ***Inadequate quantity and unsatisfactory quality of rock materials delivered by Contractor A to Shek O Quarry.*** The counterclaims against Contractor A were related to the rock materials delivered by Contractor A to Shek O Quarry under a CEDD contract (Contract D) awarded to another contractor (Contractor D). Under Contract A, Contractor A was required to deliver by barges the disposal materials at the Kai Tak site to Shek O Quarry. According to a supplementary agreement entered into between CEDD and Contractor D in August 2001, CEDD shall give preference to Contractor D to import two-thirds of acceptable quality rock materials (which shall meet the requirements for use as aggregates in concrete production) from Contract A subject to a maximum limit of 5.5 million tonnes of rock materials. There were contractual disputes under Contract D relating to the quantity and quality of rock materials delivered by Contractor A to Shek O Quarry. Contractor D claimed for additional payment for the inadequate quantity and unsatisfactory quality of rock materials delivered by Contractor A to Shek O Quarry. In July 2015, the Government paid a lump sum to Contractor D in full and final settlement of the contractual disputes under Contract D. CEDD counterclaimed Contractor A for the damages claimed by Contractor D. The counterclaims were settled in November 2018 (see para. 3). According to CEDD, the root cause of Contractor D’s claim arose from the inaccuracy of the estimation of the quantity of acceptable quality rock materials available from Contract A (paras. 2.22 to 2.26).

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Other issues under Contract A

7. *Scope for conducting more thorough pre-tender site investigations.* In June 2005, FC approved an increase in the approved project estimate of the Project by \$230 million to cover additional costs arising mainly from variations under Contract A due to unforeseeable geological conditions. Regarding the cost increase, the Transport and Housing Bureau and CEDD informed the Legislative Council in May 2005 that: (a) before the commencement of Contract A, site investigation had been carried out to ascertain the geological conditions of the site for the design of the Project; (b) during the construction stage of Contract A, unforeseeable soil and rock profiles in various areas within the development site were encountered, resulting in variations and additional works under Contract A; and (c) only 200 boreholes had been included in the original site investigation works for the Project involving a site of about 35 ha. According to CEDD, further guidelines on good site investigation practice and geotechnical works of public works projects were subsequently promulgated in 2017 and 2018 respectively (after the award of Contract A). In Audit's view, in implementing a works project involving a large-scale site in future, CEDD needs to take measures to ensure that its staff and consultants conduct thorough pre-tender site investigations in accordance with the related guidelines, and continue to explore new technologies and digital tools for conducting pre-tender site investigations (paras. 3.2 to 3.4).

8. *Need to ensure compliance with control requirements on blasting activities.* Audit noted that there were two flyrock incidents after the blasting activities at the works site under Contract A in February and June 2003 respectively. According to CEDD: (a) for the flyrock incident in February 2003, it caused damage to 8 windows in 5 flats at a private housing estate. It was believed that the incident was due to the unfavourable rock joints in the blasting area; (b) for the flyrock incident in June 2003, it caused minor injuries to 9 persons and damage to 4 vehicles and properties (e.g. the roof and railing of two bus shelters). The incident was likely due to unforeseeable unfavourable ground condition in the blasting area and some protective and precautionary measures specified in the method statement were not taken or not effectively taken by Contractor A for the rock blast; and (c) after the two flyrock incidents, relevant guidelines were amended in 2007 so that works projects involving blasting activities were subject to more tightened control. In Audit's view, in implementing a works project involving blasting activities (particularly at works sites in densely populated area) in future, CEDD needs to make continued efforts to ensure that its consultants and contractors comply with the control requirements on blasting activities (paras. 3.7 to 3.9).

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Administration of Contracts B and C

9. Contract B mainly involved the construction of two slip road bridges and a footbridge (Footbridge A), and taking over and maintenance of the completed works (e.g. slopes) under Contract A in various specified portions of the development site. In December 2005, CEDD awarded Contract B to Contractor B at a contract sum of \$129.3 million. The contract works were completed in March 2010 and the total contract expenditure was \$135.8 million. Contract C mainly involved the construction of two footbridges (Footbridges B and C). In January 2007, CEDD awarded Contract C to Contractor C at a contract sum of \$88 million. The contract works were completed in October 2010 and the total contract expenditure was \$101.8 million (paras. 4.2, 4.3, 4.12 and 4.13).

10. *Need to enhance the management of slope works.* The works under Contract A included the formation of two slopes (Slopes A and B) and were substantially completed in December 2006. In March 2008, Contractor A passed Slopes A and B to Contractor B (being the works agent of CEDD) for maintenance prior to handing over to the future maintenance government departments. Audit noted that: (a) Consultant X made submissions to the Geotechnical Engineering Office of CEDD for final checking of the completed Slopes A and B in January and July 2008 respectively (i.e. more than one year after the substantial completion of Contract A); and (b) in the event, slope enhancement works for Slopes A and B were found required and implemented by Contractor B via two variation orders (VOs — later valued at a total cost of \$1.3 million) issued in June and October 2008 respectively. In Audit's view, in implementing a works project involving slope works in future, CEDD needs to remind its staff and consultants to fully assess the conditions of slope works as early as practicable and take prompt follow-up actions as needed (paras. 4.8 and 4.9).

11. *Scope for improvement in ordering works variations.* For three VOs under Contract C issued between January 2009 and April 2010, Audit noted that: (a) the actual costs of these VOs increased by 280% to 327% as compared with the estimated costs; and (b) the actual costs of these VOs exceeded the approving authority of the officer approving their issuance. At the time of implementing Contract C, CEDD had no specific guidelines on this. According to CEDD, in May 2019 (after the award of Contract C), it promulgated guidelines for dealing with a variation with value exceeding its estimate made at the time of approval. Audit noted that, as of February 2021, the Project Administration Handbook for Civil Engineering Works

Executive Summary

(Project Administration Handbook) issued by CEDD had not yet incorporated such guidelines (para. 4.16).

12. ***Discrepancies between BQ items and contract drawings.*** Contract drawings of Contract C required the use of two grades of steel for the steelwork of Footbridges B and C. However, according to Consultant X, only BQ items of one grade of steel which did not fulfil the requirement were included in Contract C. Consultant X considered that the steelwork of Footbridges B and C were omitted in BQ. In the event, CEDD paid \$1.2 million to Contractor C for carrying out the works of the omitted items. CEDD subsequently provided in 2014 (after the award of Contract C) further guidelines on checking the completeness and accuracy of BQ and related documents. In Audit's view, in preparing documents for a works contract in future, CEDD needs to remind its staff and consultants to follow such guidelines (paras. 4.18 and 4.20).

Audit recommendations

13. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Civil Engineering and Development should:**

Contractual disputes under Contract A

- (a) **in implementing a works contract involving excavation and handling of disposal materials, closely monitor the effectiveness of the enhanced control measures for the management of disposal materials (para. 2.20(a));**
- (b) **in preparing documents for a works contract, take measures to critically vet contract documents in accordance with the related guidelines (para. 2.20(b));**
- (c) **in implementing a works contract involving excavation and delivery of excavated materials:**

Executive Summary

- (i) **remind CEDD staff and consultants to conduct thorough ground investigation at the detailed design stage in accordance with the related guidelines (para. 2.28(a)); and**
- (ii) **closely monitor the quantity and quality of excavated materials delivered to specified disposal sites to ensure compliance with the related contract requirements (para. 2.28(b));**

Other issues under Contract A

- (d) **in implementing a works project involving a large-scale site:**
 - (i) **take measures to ensure that CEDD staff and consultants conduct thorough pre-tender site investigations in accordance with the related guidelines (para. 3.10(a)(i)); and**
 - (ii) **continue to explore new technologies and digital tools for conducting pre-tender site investigations (para. 3.10(a)(ii));**
- (e) **in implementing a works project involving blasting activities (particularly at works sites in densely populated area), make continued efforts to ensure that CEDD consultants and contractors comply with the control requirements on blasting activities (para. 3.10(b));**

Administration of Contracts B and C

- (f) **in implementing a works project involving slope works, remind CEDD staff and consultants to fully assess the conditions of slope works as early as practicable and take prompt follow-up actions as needed (para. 4.10(b));**
- (g) **in administration of a works contract:**
 - (i) **take measures to enhance the accuracy of cost estimate for works variations as far as practicable (para. 4.21(a)(i)); and**

Executive Summary

- (ii) **remind CEDD staff and consultants to follow CEDD guidelines for dealing with a variation with value exceeding its estimate made at the time of approval (para. 4.21(a)(ii));**
- (h) **consider incorporating into the Project Administration Handbook CEDD guidelines for dealing with a variation with value exceeding its estimate made at the time of approval (para. 4.21(b)); and**
- (i) **in preparing documents for a works contract, remind CEDD staff and consultants to follow the related guidelines on checking the completeness and accuracy of BQ and related documents (para. 4.21(c)).**

Response from the Government

14. The Director of Civil Engineering and Development agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

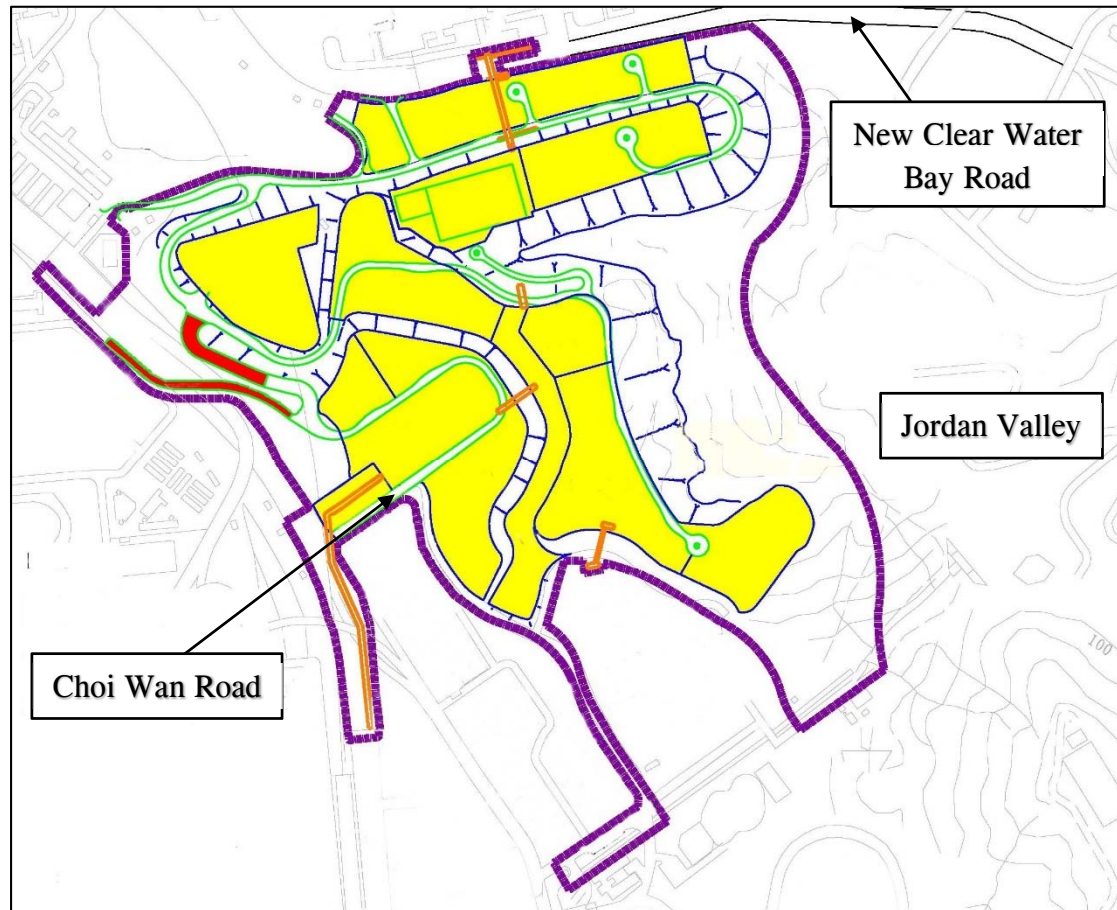
1.2 In 1996, a site (see Figure 1 for proposed site plan) with an area of about 35 hectares (ha) near Choi Wan Road and Jordan Valley in East Kowloon was identified as a potential site for boosting housing supply. Upon completion of the “Planning and Engineering Feasibility Study for Development near Choi Wan Road and Jordan Valley” in October 1998, the feasibility of the proposed housing development at the site was confirmed. The Transport and Housing Bureau (THB — Note 1) was the policy bureau for the planned development and the Civil Engineering and Development Department (CEDD — Note 2) was the works agent responsible for carrying out site formation works and providing associated infrastructure to serve the planned development at the site.

Note 1: *In July 2007, THB was formed to take over the policy responsibility for housing matters. Before July 2007, the policy responsibility rested with the then Housing, Planning and Lands Bureau (July 2002 to June 2007), the then Housing Bureau (July 1997 to June 2002) and the then Housing Branch (before July 1997). For simplicity, all previous policy bureaux and branch responsible for the policies on housing matters are also referred to as THB in this Audit Report.*

Note 2: *In July 2004, CEDD was formed by merging the then Civil Engineering Department and the then Territory Development Department. For simplicity, the then Civil Engineering Department is also referred to as CEDD in this Audit Report.*

Figure 1

Proposed site plan for development near Choi Wan Road and Jordan Valley



- Legend:
- Proposed site boundary
 - Proposed building platforms and district open space
 - Proposed footbridges
 - Proposed flyovers
 - Proposed roads

Source: CEDD records

Implementation of site formation and associated infrastructure works for development near Choi Wan Road and Jordan Valley

1.3 The site formation and associated infrastructure works for the development near Choi Wan Road and Jordan Valley (hereinafter referred to as the Project) commenced in November 2001 and the Project was completed in October 2010.

According to the papers submitted by THB seeking funding approvals for the Project from the Finance Committee (FC) of the Legislative Council (LegCo) (approved by FC in March 2001 and June 2005 — see Table 1 in para. 1.4), the scope of works included the following:

- (a) formation of about 20 ha of building platforms for housing development (Note 3), seven schools, district open space, and associated slopes and retaining walls;
- (b) about 3,900 metres (m) of roadworks, including road junction improvement works;
- (c) five footbridges (Note 4) and two flyovers;
- (d) associated drainage and sewerage works;
- (e) landscaping works; and
- (f) environmental mitigation measures for the abovementioned works.

1.4 The Project was implemented under three project votes (hereinafter referred to as Project Votes A to C). The approved project estimate (APE) of these project votes totalled \$2,084 million (see Table 1), comprising:

- (a) a total funding of \$2,069 million approved by FC between June 1997 and June 2005 for the planning and engineering feasibility study, site investigation, detailed design, and site formation and associated infrastructure works for the Project; and

Note 3: *According to the funding paper (approved by FC in June 2005): (a) the proposed housing development had originally been scheduled for both public housing and private developments to accommodate a population of 35,000; and (b) the Government then decided that all residential sites were reserved for public housing development with population intake between 2008 and 2010 (revised from the original population intake date of 2006 onwards in the original programme of 2001).*

Note 4: *In the event, only three footbridges were constructed. The other two footbridges were not required after CEDD's reviews of the anticipated pedestrian flows.*

Introduction

- (b) an increase in APE of Project Vote C by \$15 million approved by the Secretary for Financial Services and the Treasury (under delegated authority from FC) in July 2018.

Table 1

**Funding approvals for the Project
(June 1997 to July 2018)**

Date	Particulars	Approved amount (\$ million)
<i>Planning, investigation and detailed design</i>		
Project Vote A		
June 1997	Planning and engineering feasibility study	16.0
Project Vote B		
July 1999	Site investigation and detailed design	43.7
<i>Construction works</i>		
Project Vote C		
March 2001	Site formation and associated infrastructure works	1,779.3
June 2005	Increase in APE to cover additional costs arising from variations due to unforeseeable geological conditions, design changes and additional resident site staff costs	230.0
July 2018	Increase in APE to cover additional costs of the works under the Project	15.0 (Note)
Total		2,084.0

Source: CEDD records

Note: Apart from this increase in APE which was approved by the Secretary for Financial Services and the Treasury under delegated authority from FC, all other funding (totalling \$2,069 million) was approved by FC.

1.5 In August 1997 and July 1999, CEDD awarded two consultancies for the Project (see Table 2) respectively, as follows:

- (a) Consultancy X for the planning and engineering feasibility study; and
- (b) Consultancy Y for the site investigation, design and construction supervision work of the Project which involved three works contracts (Contracts A to C — see para. 1.6).

Table 2

**Consultancies for the Project
(October 2020)**

Consultancy	Consultant	Particulars	Cost (\$ million)
X (Awarded in August 1997)	X (Note)	Planning and engineering feasibility study	8.9
Y (Awarded in July 1999)	X (Note)	Site investigation, design and construction supervision work for Contracts A to C	25.0
Total			33.9

Source: CEDD records

Note: Consultancies X and Y were awarded to the same consultant (i.e. Consultant X).

Introduction

1.6 Between November 2001 and January 2007, CEDD awarded three works contracts (Contracts A to C) to three contractors for the implementation of the Project. Contracts A, B and C were completed in December 2006, March 2010 and October 2010 respectively, which were later than the respective original contract completion dates (see Table 3). In the event, the residential sites under the Project were used for public rental housing development (Note 5).

Table 3
Contracts awarded for the Project
(November 2001 to October 2010)

Contract	Works	Commencement date	Original contract completion date	Actual completion date	No. of months later than original contract completion date
A	Site formation and associated infrastructure works	19.11.2001	3.11.2005	30.12.2006	13.9
B	Remaining infrastructure works — Stage 1	21.12.2005	17.6.2009	11.3.2010	8.8
C	Remaining infrastructure works — Stage 2	13.1.2007	11.1.2010	25.10.2010	9.4

Source: CEDD records

Note 5: *The public rental housing development comprised three public rental housing estates, namely Choi Ying Estate, Choi Tak Estate and Choi Fook Estate. According to CEDD, close and frequent collaborations among various relevant parties were maintained to keep in view the scheduled handover dates of the residential sites, working towards the target population intake dates (i.e. between 2008 and 2010) as mentioned in the FC paper (see Note 3 to para. 1.3(a)). In the event, according to the Housing Department, the population intake date for Choi Ying Estate commenced in 2008 and that for Choi Tak Estate and Choi Fook Estate commenced in 2010 (i.e. meeting the target population intake dates).*

Project cost

1.7 The accounts of Contracts A, B and C (see Table 4) were finalised in February 2019, November 2011 and November 2012 respectively. The finalisation of account of Contract A (in February 2019) long after its completion (in December 2006) was mainly due to contractual disputes under Contract A, which involved two claims. Contractor A referred the two claims in dispute to arbitration in March and April 2015 respectively. The Government also counterclaimed Contractor A. In the event, the Government entered into a settlement agreement with Contractor A in November 2018, under which the Government paid \$32 million to Contractor A to settle all the contractual disputes and arbitrations under Contract A on a non-admission of liability basis. As of October 2020, \$2,057.4 million (99%) of APE totalling \$2,084 million for the Project had been incurred. Of the \$2,057.4 million:

- (a) \$1,855.6 million (90%) was related to expenditures for the Project under Contracts A to C (see Note 2 to Table 4); and
- (b) the remaining \$201.8 million (10%) mainly included resident site staff costs and consultancy fees (see Table 5).

Table 4

**Contract expenditures
(October 2020)**

Contract	Original contract sum	Total contract expenditure	Increase	Increase in provision for price fluctuation adjustment (Note 1)	Increase/ (decrease) after price fluctuation adjustment
	(a)	(b)	(c) = (b) – (a)	(d)	(e) = (c) – (d)
	(\$ million)	(\$ million)	(\$ million)	(\$ million)	(\$ million)
A	1,338.0	1,701.9	363.9 (27.2%)	142.1 (10.6%)	221.8 (16.6%)
B	129.3	135.8	6.5 (5.0%)	9.8 (7.6%)	(3.3) (-2.6%)
C	88.0	101.8	13.8 (15.7%)	8.8 (10.0%)	5.0 (5.7%)
Overall	1,555.3	1,939.5 (Note 2)	384.2 (24.7%)	160.7 (10.3%)	223.5 (14.4%)

Source: CEDD records

Note 1: The original contract sums of Contracts A to C included provisions for price fluctuation adjustments.

Note 2: Of the \$1,939.5 million, \$1,855.6 million was related to the Project, \$77.5 million was related to entrustment works funded by other government departments and \$6.4 million was related to works for public works regional laboratory funded by CEDD.

Table 5
Other expenditures for the Project
(October 2020)

Item	Amount (\$ million)
Resident site staff costs (Note) paid to Consultant X	134.8
Consultancy fees	33.9
Other costs	33.1
Total	201.8

Source: CEDD records

Note: Consultants are required to employ resident site staff of different grades (e.g. professional grade and technical grade) for supervising contractors' works. The Government reimburses consultants for the personal emoluments of resident site staff and pays an on-cost to consultants to cover their costs in managing the resident site staff.

Audit review

1.8 In November 2020, the Audit Commission (Audit) commenced a review to examine CEDD's work in managing the implementation of the Project. The audit review has focused on the following areas:

- (a) contractual disputes under Contract A (PART 2);
- (b) other issues under Contract A (PART 3); and
- (c) administration of Contracts B and C (PART 4).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

Acknowledgement

1.9 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of CEDD during the course of the audit review amid the COVID-19 epidemic.

PART 2: CONTRACTUAL DISPUTES UNDER CONTRACT A

2.1 This PART examines the administration of contractual disputes under Contract A by CEDD, focusing on:

- (a) settlement of claims from Contractor A (paras. 2.8 to 2.21); and
- (b) settlement of counterclaims against Contractor A (paras. 2.22 to 2.29).

Contract A

2.2 Contract A was a remeasurement contract (Note 6) covering the site formation and associated infrastructure works for the development site near Choi Wan Road and Jordan Valley. The contract works mainly included:

- (a) excavation by blasting and other appropriate methods of about 9 million cubic metres (m³) of in-situ materials;
- (b) formation of building platforms of about 20 ha and associated slopes and retaining walls;
- (c) construction of internal access roads and associated pedestrian network, and drainage and sewerage systems;
- (d) provision and operation of crushing and screening plant to process the excavated materials to the required grading for off-site disposal;
- (e) construction, operation and subsequent removal of:

Note 6: *Under a remeasurement contract, the costs of works are based on the actual quantities of works done to be remeasured and the prices of different works items as priced by the contractor in the Bills of Quantities (see Note 16 to para. 2.15(b)) according to the contract.*

Contractual disputes under Contract A

- (i) a fully enclosed conveyor belt system for the transfer of excavated materials to a site in Kai Tak (i.e. the former Kai Tak Airport); and
 - (ii) reception facilities, material stockpiles and barge loading facilities at the site in Kai Tak; and
- (f) hard and soft landscaping works.

2.3 CEDD awarded Contract A to Contractor A in November 2001 at a contract sum of \$1,338 million. The works commenced in November 2001 with a contract period of about 48 months. Consultant X was the Engineer responsible for supervising the contract works. In the event, the contract works were completed in December 2006, about 13.9 months (422 days) later than the original contract completion date of November 2005 with extensions of time (EOTs — Note 7) for the whole period granted to Contractor A (Note 8). The account of Contract A was finalised in February 2019 and the total contract expenditure was \$1,701.9 million (see Table 6).

Note 7: *According to the General Conditions of Contract for Civil Engineering Works, regarding contract works commencement, completion and delays: (a) the works and any section thereof shall be completed within the time or times stated in the contract calculated from and including the date for commencement notified by the Engineer or such extended time as may be determined; (b) if the contractor fails to complete the works or any section of works within the time for completion or such extended time as may be granted, then the Employer shall be entitled to recover from the contractor liquidated damages for delay; and (c) if in the opinion of the Engineer, the cause of any delay to the progress of the works or any section of works is any of those stipulated in the General Conditions of Contract (e.g. inclement weather, a variation order issued by the Engineer, the contractor not being given possession of site, etc.), then the Engineer shall within a reasonable time consider whether the contractor is entitled to an EOT for completion of the works or any section thereof. According to the Project Administration Handbook for Civil Engineering Works issued by CEDD, an EOT for completion in effect deprives the Government of the right to liquidated damages for delay in completion of the works for the period of the extension and therefore has a financial implication.*

Note 8: *Of the 422 days of EOT granted, 211 days were due to inclement weather.*

Table 6**Total contract expenditure of Contract A
(February 2019)**

Particulars	Amount (\$ million)
1. Contract works completed	1,497.8
2. Payment for contract price fluctuation (Note)	172.1
3. Full and final settlement of contractual disputes (see paras. 2.4 to 2.7)	32.0
Total contract expenditure	1,701.9

Source: CEDD records

Note: Of the \$172.1 million payment for contract price fluctuation, \$30 million was provision for price fluctuation adjustments included in the original contract sum.

Contractual disputes

2.4 There were contractual disputes under Contract A, comprising claims from Contractor A (see paras. 2.8 to 2.20) and counterclaims against Contractor A (see paras. 2.22 to 2.28) (hereinafter collectively referred to as Contract A disputes). In the event, the Government paid \$32 million to Contractor A for settlement of all Contract A disputes (covering both the claims and counterclaims) on a non-admission of liability basis (see paras. 2.5 to 2.7).

Settlement of contractual disputes

2.5 Between November 2014 and April 2015, Contractor A referred the claims in dispute to arbitration, and CEDD referred the counterclaims against Contractor A to another arbitration. By a Procedural Order issued by the arbitrator in January 2016, the two arbitrations were consolidated into one arbitration. In April 2018, CEDD sought the Financial Services and the Treasury Bureau (FSTB)'s approval (in accordance with the Stores and Procurement Regulations) for a strategy and bottom line to negotiate with Contractor A for settlement of the disputes. In July 2018, FSTB granted the approval.

Contractual disputes under Contract A

2.6 In October 2018, after several rounds of negotiations, CEDD and Contractor A reached a consensus (which was subject to the Government's internal approval and the execution of a formal settlement agreement) to settle all disputes and all arbitrations under Contract A at a settlement sum of \$32 million (inclusive of interest but exclusive of costs — Note 9) on a non-admission of liability basis. With the advice and support of the Legal Advisory Division (Works) (LAD) of the Development Bureau (DEVB) and an external legal team (Note 10), CEDD considered the settlement in the best interest to the Government.

2.7 In October 2018, CEDD sought FSTB's approval for full and final settlement of all Contract A disputes. In November 2018, FSTB approved the settlement. Accordingly, CEDD entered into a settlement agreement with Contractor A in the same month, under which the Government paid \$32 million to Contractor A to settle all disputes and all arbitrations (i.e. including claims from Contractor A and counterclaims against Contractor A) under Contract A on a non-admission of liability basis (Note 11).

Note 9: *According to CEDD: (a) the settlement sum was a lump-sum figure (with no breakdown for individual claims and disputes produced by CEDD and Contractor A) to settle the disputes; and (b) it was common that breakdowns for individual claims and disputes were not included in the offer and settlement sums during negotiation.*

Note 10: *The external legal team, comprising external counsels, external solicitors, a quantum expert and a site formation engineering expert, was engaged by LAD to assist the arbitrations.*

Note 11: *According to CEDD, taking into account legal advice, the Government did not take any action against Consultant X as there was a lack of evidence supporting that Consultant X was negligent or had failed to exercise professional skill, care and diligence in performing its service for the disputes under Contract A.*

Settlement of claims from Contractor A

2.8 Consultant X certified that Contract A was substantially completed in December 2006. Contractor A disagreed with Consultant X's measurements and valuations regarding the following two claims:

- (a) claim for additional payment for stockpiling and handling of disposal materials at a site in Kai Tak (Kai Tak site — see paras. 2.10 to 2.14); and
- (b) claim for additional payment relating to the valuation of concrete buttress (Note 12) works (see paras. 2.15 to 2.19).

2.9 Contractor A disagreed with Consultant X's measurements and valuations, and referred the two claims in dispute to arbitration (see para. 2.5).

Scope for improvement in handling of disposal materials

2.10 Under Contract A, Contractor A was required to:

- (a) carry out excavation of soft and rock materials at the development site to form building platforms;
- (b) set up a crushing plant to crush and screen the excavated materials to produce different types of disposal materials according to their sizes; and

Note 12: *A concrete buttress provides structural support to improve local or overall slope stability. It is used to: (a) retain and protect areas of weak rock and support the overhang; and (b) prevent local toppling failure of the rock face.*

Contractual disputes under Contract A

- (c) transport the disposal materials by a conveyor belt system or its trucks (Note 13) from the development site to the Kai Tak site for delivery to 10 disposal sites as specified in Contract A, as follows:
 - (i) for 3 disposal sites (i.e. Shek O Quarry, Tseung Kwan O Area 137 and Lam Tei Quarry), the delivery of disposal materials was arranged by Contractor A's barges; and
 - (ii) for the remaining 7 disposal sites (Note 14), the disposal materials were delivered by barges provided by the contractors of the disposal sites.

The disposal materials could be temporarily stockpiled at the Kai Tak site to suit Contractor A's disposal operation or the collection programme of disposal sites. For material disposal at each disposal site, the tentative period, tentative average rate of acceptance/delivery (i.e. demand rate) and material specification were also specified in Contract A.

2.11 Contractor A contended that CEDD was not able to arrange acceptance of disposal materials (at the Kai Tak site) from disposal sites in a timely manner. As a result, Contractor A had incurred additional costs (such as additional manpower and plant) to store and handle the disposal materials, and claimed for additional payment for stockpiling and handling of disposal materials at the Kai Tak site.

Note 13: *A fully enclosed conveyor belt system was specified in the contract as the only means for transporting disposal materials from the development site to the Kai Tak site throughout the contract period, except at the beginning and the end of the works period when the conveyor belt system was not yet set up for use or had been demolished for the completion of contract works. During these two periods, Contractor A was allowed to transport the disposal materials by trucks.*

Note 14: *The 7 disposal sites were: (a) Infrastructure for Penny's Bay Development; (b) Central Reclamation Phase III; (c) Penny's Bay Reclamation 2; (d) Wan Chai Development II; (e) Ma Liu Shui Reclamation; (f) North Tsing Yi Reclamation; and (g) South East Kowloon Development.*

2.12 According to Consultant X's assessment on Contractor A's contention:

- (a) from early 2003 to May 2005, the demand for disposal materials produced under Contract A was continuously less than the supply (Note 15). As a result, there was an accumulation of disposal materials in the stockpile areas at the Kai Tak site with a volume totalling 1.7 million m³ as of May 2005. As the original stockpile areas given to Contractor A was insufficient to accommodate this quantity of disposal materials, additional stockpile areas were given to Contractor A. This apparent mismatch between material supply and demand appeared to form part of the basis of Contractor A's claim with the argument that it was outside Contractor A's original contemplation at the tender stage;
- (b) CEDD, as the employer, needed to identify disposal sites to receive the excavated materials. Although the demand rates were only tentatively specified in Contract A, it was not unreasonable for Contractor A to expect CEDD to provide the necessary demand to collect disposal materials within a reasonable time; and
- (c) Contractor A's claim for additional payment for temporary stockpiling and associated handling of disposal materials due to a lack of demand for disposal materials from the Kai Tak site by the disposal sites was considered valid.

In the event, the claim for stockpiling and handling of disposal materials at the Kai Tak site was settled in November 2018 (see para. 2.7).

Note 15: *According to CEDD: (a) between early 2003 and May 2005, the Wan Chai Development II (one of the disposal sites — see Note 14 to para. 2.10(c)(ii)) was a major disposal site for the disposal materials stockpiled at the Kai Tak site. However, due to an unforeseeable judicial review initiated in February 2003 against the proposed reclamation under the Wan Chai Development II, the reclamation programme was interrupted, resulting in a decrease in the demand for disposal materials produced under Contract A during that period; (b) additional stockpile areas at the Kai Tak site had been identified to avoid affecting the progress of transporting the disposal materials from the development site to the Kai Tak site; and (c) the decrease in the demand for disposal materials produced under Contract A could not have been contemplated by CEDD.*

Contractual disputes under Contract A

2.13 In March 2021, CEDD informed Audit that:

- (a) Contractor A's claim could have been mitigated if the forecast on the generation and demand of fill materials had been reviewed and updated to enhance accuracy and facilitate formulating the subsequent disposal arrangement in a timely manner; and
- (b) in August 2011 (after the award of Contract A), DEVB Technical Circular (Works) No. 9/2011 on "Enhanced Control Measures for Management of Public Fill" was promulgated. The Technical Circular had enhanced the monitoring and control of the generation and demand of fill materials from public works projects, and required quarterly review and reporting on changes (with reasons) in the forecast on the generation and demand of fill materials on an individual project basis.

2.14 In Audit's view, in implementing a works contract involving excavation and handling of disposal materials in future, CEDD needs to closely monitor the effectiveness of the enhanced control measures for the management of disposal materials having regard to the lessons drawn from the claim for stockpiling and handling of disposal materials under Contract A.

Different interpretations of contract documents for valuation of concrete buttress works

2.15 Under Contract A:

- (a) Contractor A was required to carry out excavation at the development site to form building platforms and associated slopes. As part of the slope formation and stabilisation works, concrete buttresses would be constructed to stabilise some of these slopes; and

- (b) the Bills of Quantities (BQ — Note 16) items relating to the construction of concrete buttresses were grouped under a composite heading “In-situ Concrete (For baffle wall, debris trap and concrete buttress)” with BQ rates for different types of concrete, including:
 - (i) BQ rate of \$2,500 per m³ for Concrete Grade 20/20 (Note 17); and
 - (ii) BQ rate of \$915 per m³ for Concrete Grade 30/20 (see Note 17).

2.16 Regarding the valuation of concrete buttress works involving Concrete Grade 30/20, Contractor A and Consultant X had different views, as follows:

Contractor A’s views

- (a) Contractor A disagreed with the BQ rate (i.e. \$915 per m³ — see para. 2.15(b)(ii)) applied by Consultant X for measuring the concrete buttress works involving Concrete Grade 30/20 and claimed for additional payment on top of the amount certified by Consultant X (i.e. \$8.3 million);
- (b) according to Contractor A, concrete buttresses were constructed on formed slopes at discrete and isolated locations which might be located 30 m to 40 m above formation level. Hence, the placement of concrete to the buttresses required the use of expensive concrete pumps or craneage whereas baffle walls and debris traps did not;

Note 16: *According to the Project Administration Handbook for Civil Engineering Works issued by CEDD, BQ is a list of items giving brief identifying descriptions and estimated quantities of the works to be performed. BQ forms a part of the contract documents, and is the basis of payment to the contractor. The main functions of BQ are to allow a comparison of tender prices and provide a means of valuing the works.*

Note 17: *Concrete Grade 20/20 refers to concrete with compressive strength of 20 megapascals and made with stone aggregate having a nominal maximum size of 20 millimetres. Concrete Grade 30/20 refers to concrete with compressive strength of 30 megapascals and made with stone aggregate having a nominal maximum size of 20 millimetres. Concrete Grade 30/20 has a higher compressive strength and usually has a higher cost than Concrete Grade 20/20.*

Contractual disputes under Contract A

- (c) by reference to the different nature of concrete buttresses when compared with baffle walls and debris traps, and contract drawings (which showed that the construction of concrete buttresses involved Concrete Grade 20/20), Contractor A considered that:
 - (i) BQ item for Concrete Grade 20/20 was for the construction of concrete buttresses, and BQ item for Concrete Grade 30/20 was for the construction of baffle walls and debris traps. Contractor A priced the BQ items for different concrete grade on this basis; and
 - (ii) BQ item for Concrete Grade 30/20 was not for the construction of concrete buttresses. The rate for measuring concrete buttress works should be built up from BQ rate for Concrete Grade 20/20 (i.e. \$2,500 per m³ — see para. 2.15(b)(i)); and

Consultant X's views

- (d) Consultant X considered that the BQ rate for Concrete Grade 30/20 (i.e. \$915 per m³ — see para. 2.15(b)(ii)) was applicable for measuring the concrete buttress works and certified an amount of \$8.3 million.

2.17 Having considered opinions from the external legal team (see para. 2.6) and the validity of Contractor A's entitlement under Contract A, CEDD considered that Contractor A's claim (relating to the valuation of concrete buttress works) arose from different contractual interpretations on BQ items (see para. 2.16). In the event, the claim was settled in November 2018 (see para. 2.7). In March 2021, CEDD informed Audit that:

- (a) Contractor A's claim arose from different contractual interpretations on the applicability of particular BQ items in valuing the concrete buttress works involving Concrete Grade 30/20; and
- (b) the root cause was due to inconsistency between contract drawings and BQ.

2.18 According to the Project Administration Handbook for Civil Engineering Works (hereinafter referred to as the Project Administration Handbook) issued by CEDD, it is essential that the contract documents for each contract are prepared with great care and by an experienced professional who has thorough knowledge of the works to be constructed, and the documents forming a contract must be scrutinised for comprehensive coverage, accuracy and consistency with one another before tenders are invited. In this connection, in 2014 (after the award of Contract A), CEDD amended the Project Administration Handbook to provide further guidelines on checking the completeness and accuracy of BQ and related documents (see para. 4.20).

2.19 In Audit's view, in preparing documents for a works contract in future, CEDD needs to take measures to critically vet contract documents (e.g. BQ items under a composite heading) in accordance with the related guidelines with a view to minimising the risk of contractual disputes on valuation of works arising from different interpretations of contract documents.

Audit recommendations

2.20 Audit has *recommended* that the Director of Civil Engineering and Development should:

- (a) **in implementing a works contract involving excavation and handling of disposal materials in future, closely monitor the effectiveness of the enhanced control measures for the management of disposal materials having regard to the lessons drawn from the claim for stockpiling and handling of disposal materials under Contract A; and**
- (b) **in preparing documents for a works contract in future, take measures to critically vet contract documents (e.g. BQ items under a composite heading) in accordance with the related guidelines with a view to minimising the risk of contractual disputes on valuation of works arising from different interpretations of contract documents.**

Response from the Government

2.21 The Director of Civil Engineering and Development agrees with the audit recommendations.

Settlement of counterclaims against Contractor A

2.22 Under Contract A, Contractor A was required to deliver by barges the disposal materials at the Kai Tak site to 3 disposal sites, including Shek O Quarry (see para. 2.10(c)). The tentative quantity and the quality of disposal materials to be delivered to Shek O Quarry were set out in Contract A.

2.23 The rehabilitation of Shek O Quarry was under a CEDD contract (Contract D) awarded to another contractor (Contractor D) in March 1994 (Note 18). According to a supplementary agreement entered into between CEDD and Contractor D in August 2001:

- (a) Contractor D was granted permission to import rock materials produced under Contract A to Shek O Quarry; and
- (b) CEDD shall give preference to Contractor D to import two-thirds of acceptable quality rock materials from Contract A subject to a maximum limit of 5.5 million tonnes of rock materials (Note 19). The rock materials shall meet the requirements for use as aggregates (Note 20) in concrete production.

Note 18: *Contract D was a revenue-earning contract, under which CEDD granted to Contractor D the sole and exclusive right to enter upon the quarry at Shek O for the purpose of quarrying, processing rock (e.g. for sale as aggregates) and quarry rehabilitation. Contractor D paid to the Government a lump sum of \$25 million and such additional sums, if any, in accordance with the provisions of Contract D. In the event, Contract D was completed in December 2011 and the final contract sum paid to the Government was \$67.6 million.*

Note 19: *Contractor D was required to pay a royalty of \$5.5 per tonne on all rock materials imported from Contract A.*

Note 20: *Aggregates, which may be natural or recycled, are granular materials used for concrete production.*

2.24 There were contractual disputes under Contract D relating to the quantity and quality of rock materials delivered by Contractor A to Shek O Quarry, as follows:

- (a) ***Inadequate quantity of rock materials delivered by Contractor A to Shek O Quarry.*** The salient points are as follows:
- (i) under Contract A, the tentative quantity of rock materials to be delivered to Shek O Quarry would be 138,000 m³ per quarter during the tentative period from the first quarter of 2002 to the fourth quarter of 2005 (or about 5.74 million tonnes — Note 21);
 - (ii) CEDD was responsible for making decisions for the allocation of disposal materials from Contract A to various disposal sites. In making its allocation decisions, CEDD made reference to the information provided by Consultant X (e.g. the quantity of rock materials available from Contract A). Consultant X was obliged to obtain instructions from CEDD and give corresponding instructions to Contractor A for the quantity of disposal materials to be delivered to different disposal sites;
 - (iii) during the construction stage of Contract A, due to the unforeseeable needs of disposal materials of a disposal site (i.e. Tseung Kwan O Area 137), CEDD gave top priority to that disposal site and a lower priority to other disposal sites (including Shek O Quarry) for delivery of disposal materials prior to November 2003;

Note 21: *According to CEDD records, the formula for converting the quantity of rock materials in terms of m³ to tonnes was 138,000 m³ per quarter × 16 quarters × density of 2.6 tonnes per m³.*

Contractual disputes under Contract A

- (iv) in November 2003, CEDD decided to supply up to 5.5 million tonnes (i.e. the agreed quantity — Note 22) of acceptable quality rock materials from Contract A to Shek O Quarry (Note 23);
- (v) as of October 2004, based on Consultant X's estimation of the remaining quantity of rock materials available from Contract A, CEDD was still expecting full delivery of the agreed quantity of rock materials to Shek O Quarry. However, in January 2005, Consultant X revised its estimate and predicted that only 95% of the agreed quantity (i.e. 5.2 million tonnes) of rock materials could be delivered to Shek O Quarry (Note 24); and
- (vi) upon completion of the delivery of rock materials, Contractor D asserted that the total quantity of acceptable quality rock materials delivered by Contractor A to Shek O Quarry was less than 5.5 million tonnes (i.e. the quantity that it deemed to be entitled to receive); and

Note 22: *According to CEDD, two-thirds of acceptable quality rock materials from Contract A was more than 5.5 million tonnes and hence, the agreed quantity of rock materials from Contract A delivering to Shek O Quarry should be 5.5 million tonnes.*

Note 23: *According to CEDD, Tseung Kwan O Area 137 had received enough disposal materials in December 2003.*

Note 24: *According to CEDD: (a) the actual quantity of rock materials delivered by Contractor A to Shek O Quarry was less than the agreed quantity of 5.5 million tonnes; and (b) it might not be appropriate to disclose the actual figure as there was dispute between the Government and Contractor D on it.*

(b) *Unsatisfactory quality of rock materials delivered by Contractor A to Shek O Quarry.* The salient points are as follows:

- (i) under Contract A, the rock materials to be delivered to Shek O Quarry were rock materials for aggregates, with specification of Grade II Rock (Note 25) or better and nominal diameter less than 200 millimetres;
- (ii) from early to mid-2003, Contractor D had raised seven complaints to CEDD and Contractor A about the presence of significant quantities of metal contaminants in the rock materials delivered by Contractor A to Shek O Quarry; and
- (iii) Contractor A only installed a magnet in its plant for processing the excavated materials to improve the quality of disposal materials in May 2003 (i.e. 4 months after Contractor D had raised the quality issue).

2.25 In the event:

- (a) Contractor D claimed for additional payment for the inadequate quantity and unsatisfactory quality of rock materials delivered by Contractor A to Shek O Quarry. In July 2015, the Government paid a lump sum to Contractor D in full and final settlement of the contractual disputes under Contract D; and
- (b) CEDD counterclaimed Contractor A for the damages claimed by Contractor D. The counterclaims were settled in November 2018 (see para. 2.7).

Note 25: *According to the Guide to Rock and Soil Descriptions issued by CEDD: (a) decomposition grades of rock material are classified into Grades I to VI (with descending rock hardness); and (b) Grade II Rock is slightly decomposed rock material with the following characteristics: (i) not broken easily by geological hammer; (ii) making a ringing sound when struck by geological hammer; and (iii) with fresh rock colours generally retained but stained near joint surfaces.*

Contractual disputes under Contract A

2.26 In March 2021, CEDD informed Audit that:

- (a) the root cause of Contractor D's claim for additional payment (see para. 2.25(a)) arose from the inaccuracy of the estimation of the quantity of acceptable quality rock materials (i.e. Grade II Rock or better) available from Contract A. To ensure the accuracy of the estimation of the quantity of rock materials generated from a works contract, it was important to conduct sufficient ground investigation at the detailed design stage;
- (b) after the award of Contract A:
 - (i) "Geoguide 2: Guide to Site Investigation" published by the Geotechnical Engineering Office (GEO) of CEDD was updated in 2017 to provide guidance on good site investigation practice for works departments to plan and carry out investigation of works sites; and
 - (ii) further guidelines on geotechnical works of public works projects were promulgated in DEVB Technical Circular (Works) No. 3/2018 of March 2018 on "Enhancing Cost Effectiveness of Geotechnical Works of Capital Works Projects". Under the Technical Circular, works departments were required to submit the ground investigation plan and the schematic design proposal with relevant information (e.g. ground investigation data) to GEO for review and comment; and
- (c) resident site staff supervising the contract works were reminded to check frequently the quality of excavated materials against the requirements specified by disposal sites.

2.27 In Audit's view, in implementing a works contract involving excavation and delivery of excavated materials in future, CEDD needs to:

- (a) remind its staff and consultants to conduct thorough ground investigation at the detailed design stage in accordance with the related guidelines with a view to enhancing the accuracy of the estimation of the quantity of excavated materials generated from the works contract; and

- (b) closely monitor the quantity and quality of excavated materials delivered to specified disposal sites to ensure compliance with the related contract requirements.

Audit recommendations

2.28 **Audit has *recommended* that, in implementing a works contract involving excavation and delivery of excavated materials in future, the Director of Civil Engineering and Development should:**

- (a) **remind CEDD staff and consultants to conduct thorough ground investigation at the detailed design stage in accordance with the related guidelines with a view to enhancing the accuracy of the estimation of the quantity of excavated materials generated from the works contract; and**
- (b) **closely monitor the quantity and quality of excavated materials delivered to specified disposal sites to ensure compliance with the related contract requirements.**

Response from the Government

2.29 **The Director of Civil Engineering and Development agrees with the audit recommendations.**

PART 3: OTHER ISSUES UNDER CONTRACT A

3.1 Contract A's total contract expenditure was \$1,701.9 million (accounting for 92% of the total contract expenditure of \$1,855.6 million under the Project) (see para. 1.7(a)). Apart from the issue on contractual disputes (see PART 2), there were other issues relating to the administration of Contract A by CEDD. This PART examines the other issues under Contract A, focusing on:

- (a) contract management (paras. 3.2 to 3.11); and
- (b) post-completion review (paras. 3.12 to 3.16).

Contract management

Scope for conducting more thorough pre-tender site investigations

3.2 In June 2005, FC approved an increase in APE of Project Vote C by \$230 million (see Table 1 in para. 1.4) from \$1,779.3 million to \$2,009.3 million to cover additional costs arising mainly from variations under Contract A due to unforeseeable geological conditions (Note 26). Regarding the cost increase, Audit noted that:

- (a) in May 2005, THB and CEDD informed the Panel on Housing and the Public Works Subcommittee of FC of LegCo that:
 - (i) the scale of site formation works for the Project was substantial, involving the cutting of an existing huge slope of 110 m high and 1,000 m wide to form slope faces (of about 13 ha) and building platforms (of about 20 ha) within a site of about 35 ha. Before the commencement of Contract A, site investigation had been carried out to ascertain the geological conditions of the site for the design of the Project; and

Note 26: *The increase in APE was also used to cover additional costs arising from changes to bridgework design of the remaining infrastructure works and additional resident site staff costs.*

- (ii) during the construction stage of Contract A, unforeseeable soil and rock profiles in various areas within the development site were encountered. As a result, variations and additional works (Note 27) were required under Contract A, leading to an increase of estimated cost of about \$213 million (Note 28); and
- (b) in response to a LegCo Member's enquiry on whether the Government would review the criteria to determine the scope of site investigation works for future projects at a meeting of the Public Works Subcommittee in May 2005, CEDD said that:
 - (i) only 200 boreholes had been included in the original site investigation works for the Project involving a site of about 35 ha. The Government discovered the unforeseeable soil and rock profiles within the site only after the commencement of works; and
 - (ii) in conducting future site investigations for large-scale sites, the Government would employ geological experts and geological engineers to study the aerial photographs and the geological model of the site to determine the number and location of the boreholes for site investigation.

Note 27: *The variations and additional works included: (a) variations of bulk excavation for building platforms. The ratio of quantities of soft materials and rock had been found to be different from what CEDD originally provided for in Contract A. The proportion of soft materials increased from 16% to 27%, leading to an increase of estimated cost of about \$159 million; (b) variations of trench excavation works in rock for drains and sewers. The quantity of such works had been found to be more than that originally provided for in Contract A, leading to an increase of estimated cost of about \$23 million; and (c) additional slope improvement works (e.g. retaining walls, soil nails and spray concrete). These works were required to ensure slope stability, leading to an increase of estimated cost of about \$31 million.*

Note 28: *According to CEDD, the actual cost increase under Contract A included: (a) \$169 million due to increase in proportion of soft materials; (b) \$18 million due to variations of trench excavation works in rock for drains and sewers; and (c) \$24 million due to additional slope improvement works.*

Other issues under Contract A

3.3 In March 2021, CEDD informed Audit that, after the award of Contract A:

- (a) Geoguide 2 (see para. 2.26(b)(i)) was updated in 2017 to provide further guidelines in the application of new technologies and digital tools (such as geophysical survey methods and geographical information system) to enhance site investigation works; and
- (b) further guidelines on geotechnical works of public works projects were promulgated in 2018 (see para. 2.26(b)(ii)).

3.4 In Audit's view, in implementing a works project involving a large-scale site in future, CEDD needs to:

- (a) take measures to ensure that its staff and consultants conduct thorough pre-tender site investigations in accordance with the related guidelines; and
- (b) continue to explore new technologies and digital tools for conducting pre-tender site investigations with a view to providing better information on site conditions for design and tender purposes.

Need to ensure compliance with control requirements on blasting activities

3.5 The Mines Division under GEO of CEDD is responsible for regulating blasting activities under the Dangerous Goods Ordinance (Cap. 295). According to the Dangerous Goods (General) Regulations (Cap. 295B):

- (a) no person shall carry out any blasting without the permission of the authority (i.e. the Commissioner of Mines). The Director of Civil Engineering and Development is also the Commissioner of Mines (Note 29); and

Note 29: *The Commissioner of Mines is the specified authority under the Dangerous Goods Ordinance and related subsidiary legislations. The Mines Division exercises powers vested in the Commissioner of Mines and performs duties imposed on the Commissioner of Mines under the legislation.*

- (b) when blasting is carried out, no blast shall be fired unless effective and adequate precautions are taken to prevent any fragments being projected in a dangerous manner.

3.6 For public works projects that involve blasting for rock excavation, the contractor shall obtain a blasting permit (Note 30) from the Commissioner of Mines via the Mines Division prior to commencement of the blasting works. To apply for a blasting permit, the contractor shall provide details on the nature of the works and a method statement on the blasting operations proposed to be carried out to the Mines Division for consideration. According to CEDD, the method statement should incorporate all the requirements defined in the blasting assessment report (Note 31) prepared by the consultants during the planning and design stages, and shall include, among others, details of protective measures against flyrock and safety precautionary measures (e.g. temporary closure of public road/area outside the site boundary). The method statement accepted by the Mines Division will form part of the conditions for the issue of the blasting permit.

3.7 Contract A involved the excavation of about 9 million m³ of in-situ materials by blasting and other appropriate methods (see para. 2.2(a)). Audit noted that there were two flyrock incidents after the blasting activities at the works site under Contract A in February and June 2003 respectively. The salient points of the two flyrock incidents are as follows:

- (a) ***Flyrock incident in February 2003.*** On 17 February 2003, some rock fragments were projected from a rock blast and caused damage to 8 windows in 5 flats at a private housing estate (located at about 115 m to the west of a blasting area, separated by Choi Wan Road). Several rock fragments were also found on the podium of the private housing estate. Fortunately, no person was injured in the incident. According to CEDD:

Note 30: *A blasting permit allows the contractor to use explosives at a works site for the carrying out of blasting.*

Note 31: *For public works projects, the project proponent should obtain GEO's agreement to a blasting assessment report at the planning and design stages. The purpose of the report is to identify all sensitive receivers, assess any adverse effects and risks arising from the transport, storage and use of explosives for blasting, and demonstrate the feasibility of carrying out the blasting works in a practical, safe and acceptable manner.*

Other issues under Contract A

- (i) it was believed that the incident was due to the unfavourable rock joints (Note 32) in the blasting area. Some rock fragments were projected at an unexpected direction;
 - (ii) following the flyrock incident, the blasting activities in the concerned blasting area were suspended; and
 - (iii) upon its request, Contractor A proposed an extensive protective measures (covering two-thirds of the upper slope area by hanging steel wire meshes and surrounding the blasting area by 12 m high vertical screens) in order to avoid the recurrence of similar incidents. The proposed measures were acceptable to CEDD. Accordingly, the blasting activities in the concerned blasting area resumed from 10 March 2003; and
- (b) ***Flyrock incident in June 2003.*** On 6 June 2003, a rock blast resulted in some rock fragments being projected over a distance of about 180 m to 230 m onto New Clear Water Bay Road, causing minor injuries to 9 persons and damage to 4 vehicles and properties (e.g. the roof and railing of two bus shelters). According to CEDD:
- (i) the flyrock incident was likely due to unforeseeable unfavourable ground condition in the blasting area, where the blast holes were confined by fresh rock protrusion in an area of weathered and fractured rock, resulting in upward projection of rock fragments;
 - (ii) some protective and precautionary measures (closure of New Clear Water Bay Road to both traffic and pedestrians, and provision of vertical screens, top screens, steel cages, etc.) specified in the method statement were not taken or not effectively taken by Contractor A for the rock blast on 6 June 2003 as Contractor A had overestimated the distance between the blast location and New Clear Water Bay Road (Contractor A's estimated distance was over 200 m to 300 m while the actual distance was only about 180 m);

Note 32: *According to CEDD, rock joint is a fracture formed in tension in which any displacement is too small to be visible to the unaided eye.*

- (iii) had Contractor A followed the measures specified in the method statement for the rock blast on 6 June 2003, the injuries and damage resulting from the flyrock incident would likely have been significantly reduced or even avoided; and
- (iv) Contractor A was requested to take enhanced protective and precautionary measures for all future blasts and make improvements to the management of blasting works (Note 33).

3.8 In March 2021, CEDD informed Audit that:

- (a) the Mines Division (as the regulatory body for blasting activities — see Note 29 to para. 3.5(a)) had kept under review the control requirements on blasting activities and updated the control requirements where necessary to safeguard public safety;
- (b) after the two flyrock incidents (see para. 3.7), CEDD amended in 2007 the Project Administration Handbook and the relevant Mines Division Guidance Notes so that works projects involving blasting activities (particularly at works sites in densely populated area) were subject to more tightened control, including:
 - (i) enhanced requirements on the qualification of consultants' and contractors' site supervision personnel;
 - (ii) detailed assessment of potential hazards associated with the proposed blasting works prepared by a qualified competent person and approved by GEO; and

Note 33: *According to CEDD: (a) after the occurrence of the flyrock incident on 6 June 2003, enhanced protective and precautionary measures were implemented for blasting activities under Contract A. These measures included: (i) provision of qualified supervising blasting engineer, geologist and blasting designer full-time resident on site; (ii) provision of vertical screens, full ground cover consisting of wire mesh protection mats, steel cages and securely-fix hanging screens; and (iii) clear of persons and vehicular traffic on adjacent roads during blasting activities; and (b) poor performance was reflected in relevant areas (i.e. standard of workmanship, site accident record, and provision and implementation of safe system of works) in Contractor A's performance report for the third quarter of 2003.*

Other issues under Contract A

- (iii) enhanced requirements on the management of blasting-related site activities, and the implementation of the necessary protective and precautionary measures; and
- (c) with the enhanced control requirements on blasting activities in place (see (b) above) and satisfactorily complied with, since July 2003 (after the two flyrock incidents) and up to December 2020, there had been no recurrence of similar flyrock incidents (i.e. causing injury to person and/or damage to vehicle/property).

3.9 In Audit's view, in implementing a works project involving blasting activities (particularly at works sites in densely populated area) in future, CEDD needs to make continued efforts to ensure that its consultants and contractors comply with the control requirements on blasting activities.

Audit recommendations

3.10 **Audit has *recommended* that the Director of Civil Engineering and Development should:**

- (a) **in implementing a works project involving a large-scale site in future:**
 - (i) **take measures to ensure that CEDD staff and consultants conduct thorough pre-tender site investigations in accordance with the related guidelines; and**
 - (ii) **continue to explore new technologies and digital tools for conducting pre-tender site investigations with a view to providing better information on site conditions for design and tender purposes; and**
- (b) **in implementing a works project involving blasting activities (particularly at works sites in densely populated area) in future, make continued efforts to ensure that CEDD consultants and contractors comply with the control requirements on blasting activities.**

Response from the Government

3.11 The Director of Civil Engineering and Development agrees with the audit recommendations.

Post-completion review

3.12 According to the Project Administration Handbook:

- (a) a post-completion review is a useful project management tool and shall be conducted upon the substantial completion of a major consultancy agreement or a major works contract on projects under the Public Works Programme. The emphasis and objective of the review are to gain maximum benefit from the experience accrued, rather than to apportion blame;
- (b) there is no rigid definition for major projects or the minimum number of reviews to be undertaken by departments. As a broad guideline, post-completion reviews are generally not warranted for consultancy agreements and works contracts of a project which has a total cost less than \$500 million or of a project which does not involve complicated technical and management issues. Based on the above guidelines, departments could select agreements/contracts to be reviewed at their discretion;
- (c) indicators that a project involves complicated issues may include project involving:
 - (i) a claim of a substantial sum, say over \$1 million; and
 - (ii) incidents that attract public attention;
- (d) a post-completion review should be carried out within a reasonable period, say six months, after the substantial completion of a consultancy agreement or a works contract. However, in case there are on-going disputes with the service providers, it may be more appropriate to defer the review until the disputes are settled; and

Other issues under Contract A

- (e) a post-completion review should be led by the officer in charge of the project and he or she should solicit input from the client and other project participants (such as the consultants, contractors and subcontractors) as appropriate. Upon the completion of a post-completion review, the department shall prepare a report documenting all concerned issues, findings, conclusions and recommendations for future reference by the department.

Need to timely conduct post-completion review

3.13 Audit noted that Contract A (which was substantially completed in December 2006) involved a total contract expenditure of \$1,701.9 million (see para. 2.3) and contractual disputes settled at \$32 million (see para. 2.7). While the contractual disputes with Contractor A were settled in November 2018, as of January 2021 (more than two years thereafter), CEDD had not yet conducted a post-completion review for Contract A (see para. 3.12(d)).

3.14 In February 2021, CEDD informed Audit that it was arranging a post-completion review for Contract A. As a post-completion review is a useful project management tool, Audit considers that CEDD needs to:

- (a) complete the post-completion review for Contract A as soon as practicable; and
- (b) remind its staff and consultants to conduct post-completion reviews on major works contracts in a timely manner.

Audit recommendations

3.15 **Audit has *recommended* that the Director of Civil Engineering and Development should:**

- (a) **complete the post-completion review for Contract A as soon as practicable; and**

- (b) **remind CEDD staff and consultants to conduct post-completion reviews on major works contracts in a timely manner.**

Response from the Government

3.16 The Director of Civil Engineering and Development agrees with the audit recommendations. He has said that CEDD:

- (a) completed the post-completion review for Contract A in March 2021; and
- (b) will remind its staff and consultants to conduct post-completion reviews on major works contracts in a timely manner.

PART 4: ADMINISTRATION OF CONTRACTS B AND C

4.1 This PART examines the administration of Contracts B (paras. 4.4 to 4.11) and C (paras. 4.14 to 4.22) by CEDD.

Contract B

4.2 Contract B was a remeasurement contract. Its contract works mainly included:

- (a) construction of two slip road bridges (one connecting the development site to Kwun Tong Road, and the other one connecting Choi Ha Road and Choi Wing Road);
- (b) construction of a footbridge (Footbridge A — see Photograph 1) across Choi Wan Road and Kwun Tong Road;
- (c) road junction improvement works at Ngau Tau Kok Road/Jordan Valley North Road, Ngau Tau Kok Road/Chun Wah Road and Chun Wah Road/Choi Ha Road;
- (d) taking over and maintenance of the completed building platforms, roads, slopes, footpath and associated utilities under Contract A in various specified portions of the development site; and
- (e) hard and soft landscaping works.

Photograph 1

Footbridge A (February 2009)



Source: CEDD records

4.3 CEDD awarded Contract B to Contractor B in December 2005 at a contract sum of \$129.3 million. The works commenced in December 2005 with a contract period of about 42 months. Consultant X was the Engineer responsible for supervising the contract works. In the event, the contract works were completed in March 2010, about 8.8 months (267 days) later than the original contract completion date of June 2009 with EOTs for the whole period granted to Contractor B (Note 34). The account of Contract B was finalised in November 2011 and the total contract expenditure was \$135.8 million (see Table 7).

Note 34: *Of the 267 days of EOT granted, 96 days were due to inclement weather.*

Table 7

**Total contract expenditure of Contract B
(November 2011)**

Particulars	Amount (\$ million)
1. Contract works completed	119.0
2. Payment for contract price fluctuation (Note)	16.8
Total contract expenditure	135.8

Source: CEDD records

Note: Of the \$16.8 million payment for contract price fluctuation, \$7 million was provision for price fluctuation adjustments included in the original contract sum.

Administration of Contract B

4.4 Audit noted that there was room for improvement in CEDD's administration of Contract B (see paras. 4.5 to 4.10).

Scope for enhancing pre-tender site investigations

4.5 Under Contract B, Contractor B was required to construct Footbridge A across Choi Wan Road and Kwun Tong Road, which would connect a building platform within the development site (now known as Choi Ying Estate) and the Kowloon Bay Mass Transit Railway Station. Regarding the construction of Footbridge A:

- (a) pad footings were originally designed at two footing locations of Footbridge A (namely Locations A and B);
- (b) during Contractor B's excavation works at Location A, a weak subsoil stratum was found. Further excavation works at Location A revealed that the weak subsoil stratum was not a thin layer;

- (c) Consultant X considered that additional ground investigation works was necessary to obtain more information to facilitate a design review of the foundation works and issued a variation order (VO — Note 35) (VO A — later valued at a cost of about \$71,000) to instruct Contractor B to carry out the related investigation works;
- (d) the additional ground investigation works revealed that a similar problem (i.e. weak subsoil stratum) also occurred at Location B. Based on the additional ground investigation information, Consultant X carried out a design review of the foundation works and concluded that the use of mini-piles to substitute the pad footings at Locations A and B (the revised foundation works) was considered the most suitable solution to overcome the problem. VO B (later valued at a cost of \$2 million) was issued to instruct Contractor B to carry out the revised foundation works; and
- (e) Consultant X assessed that the revised foundation works at Locations A and B (relating to VOs A and B) had delayed the completion of construction of Footbridge A and had a knock-on effect on the completion of other works (e.g. roadworks and landscape works) in that area under Contract B. In the event, EOTs ranging from 112 to 171 days for completing various sections of works and a prolongation cost (Note 36) of \$3.1 million were granted to Contractor B.

4.6 According to the Project Administration Handbook, a properly planned site investigation (including adequate supervision of the ground investigation and

Note 35: *The Engineer shall order any variation to any part of the works that is necessary for the completion of the works. The Engineer shall have the power to order any variation that for any other reason shall in the Engineer's opinion be desirable for or to achieve the satisfactory completion and functioning of the works. The Engineer shall also determine the sum which in his opinion shall be added to or deducted from the contract sum as a result of issuing a VO.*

Note 36: *Prolongation costs are generally the time related costs (e.g. the costs of a contractor's site establishment, site overheads and general plant) that are typically affected by a delay to the critical path of construction works. Works contracts include provisions for granting EOTs for completion due to events covered by the contract provisions, such as additional works, inclement weather, etc. The Engineer would assess the actual situation of each case, with the prolongation costs calculated as the time related costs additionally incurred for the relevant delay duration of those events for which prolongation costs are grantable.*

laboratory testing) is essential to identify the geotechnical problems of a site and provide sufficient data for safe and economic design and construction. In March 2021, CEDD informed Audit that, after the award of Contract B, further guidelines on good site investigation practice and geotechnical works of public works projects were promulgated in 2017 and 2018 respectively (see para. 2.26(b)). In Audit's view, in implementing a works contract involving footbridge works in future, CEDD needs to take measures to ensure that its staff and consultants conduct pre-tender site investigations (particularly for works at critical locations) in accordance with the related guidelines.

Need to enhance the management of slope works

4.7 Under Contract B, Contractor B was required to:

- (a) take over the completed building platforms, roads, slopes, footpath and associated utilities under Contract A in various specified portions of the development site from Contractor A (see para. 4.2(d));
- (b) provide security and take care of the works completed by Contractor A under Contract A; and
- (c) maintain and provide access for the use of Contractor A, government departments' contractors and others to or through these specified portions of the development site.

4.8 The works under Contract A included the formation of two slopes (Slopes A and B) and were substantially completed in December 2006 (see para. 2.3). In March 2008, Contractor A passed Slopes A and B to Contractor B (being the works agent of CEDD) for maintenance prior to handing over to the future maintenance government departments. Regarding the management of slope works for Slopes A and B, the salient points are as follows:

- (a) in January and July 2008 (i.e. more than one year after the substantial completion of Contract A), Consultant X made submissions

- (i.e. as-constructed geotechnical reports) to GEO for final checking of the completed Slopes A and B respectively (Note 37);
- (b) during the final checking of the completed slopes, GEO raised concerns over the likelihood of minor rock fall from various bare rock portions of Slopes A and B;
 - (c) following a further review of the conditions of Slopes A and B, Consultant X considered that it was necessary to install hanging wire mesh at the concerned bare rock portions of Slopes A and B in order to alleviate the minor rock fall concern;
 - (d) as there were no contractual provisions for slope enhancement works under Contract B, Consultant X issued two VOs (later valued at a total cost of \$1.3 million) in June and October 2008 respectively to instruct Contractor B to carry out the related works; and
 - (e) after the completion of the slope enhancement works, Consultant X made applications to GEO for the GEO Checking Certificates for Slopes and Retaining Walls (see Note 37) in respect of Slopes A and B in November and October 2008 respectively. GEO issued the GEO Checking Certificates for Slopes A and B in December and November 2008 respectively.

Note 37: *According to Environment, Transport and Works Bureau Technical Circular (Works) No. 20/2004 of July 2004 on “GEO Checking Certificate for Slopes and Retaining Walls”: (a) for projects with the construction contract commencing after 30 September 2001, the project department/office responsible for design and construction of public geotechnical works shall obtain a GEO Checking Certificate for Slopes and Retaining Walls for all geotechnical features constructed or upgraded under the projects, before handing over the completed works to the party responsible for the future operation or maintenance; (b) the project department/office shall apply for a Checking Certificate at any point during the life of the project after the concerned geotechnical features have been constructed and GEO checking has been completed; and (c) the Engineer/Architect of the contract shall work in coordination with the project departments/offices to obtain a Checking Certificate as early as practicable and shall not withhold the issue of the Certificate of Completion for the works on the ground that the Checking Certificate is not available.*

Administration of Contracts B and C

4.9 Audit noted that Consultant X made submissions to GEO for final checking of the completed Slopes A and B more than one year after the substantial completion of Contract A (see para. 4.8(a)). In the event, slope enhancement works for Slopes A and B were found required and implemented (see para. 4.8 (c) and (d)). In Audit's view, in implementing a works project involving slope works in future, CEDD needs to remind its staff and consultants to fully assess the conditions of slope works as early as practicable and take prompt follow-up actions as needed.

Audit recommendations

4.10 Audit has *recommended* that the Director of Civil Engineering and Development should:

- (a) in implementing a works contract involving footbridge works in future, take measures to ensure that CEDD staff and consultants conduct pre-tender site investigations (particularly for works at critical locations) in accordance with the related guidelines; and
- (b) in implementing a works project involving slope works in future, remind CEDD staff and consultants to fully assess the conditions of slope works as early as practicable and take prompt follow-up actions as needed.

Response from the Government

4.11 The Director of Civil Engineering and Development agrees with the audit recommendations.

Contract C

4.12 Contract C was a remeasurement contract. Its contract works mainly included:

- (a) construction of two footbridges (Footbridges B and C). Footbridge B (see Photograph 2) connected the development site to the lower level open space

adjacent to Choi Ha Road, and Footbridge C (see Photograph 3) connected between the upper and lower newly formed building platforms;

- (b) construction of a road section within the development site;
- (c) road junction improvement works at Shun On Road/Sau Mau Ping Road, Hong Ning Road/Kung Lok Road, Tsui Ping Road/Hip Wo Street/Wan Hon Street and Choi Shek Lane/Kwun Tong Road;
- (d) taking over and maintenance of building platforms, slopes, retaining walls, roads and associated soft landscape works, and drainage system completed under Contracts A and B in various specified portions of the development site; and
- (e) hard and soft landscaping works.

Photograph 2

Footbridge B (July 2009)



Source: CEDD records

Photograph 3

**Footbridge C
(July 2009)**



Source: CEDD records

4.13 CEDD awarded Contract C to Contractor C in January 2007 at a contract sum of \$88 million. The works commenced in January 2007 with a contract period of about 36 months. Consultant X was the Engineer responsible for supervising the contract works. In the event, the contract works were completed in October 2010, about 9.4 months (287 days) later than the original contract completion date of January 2010 with EOTs for the whole period granted to Contractor C (Note 38). The account of Contract C was finalised in November 2012 and the total contract expenditure was \$101.8 million (see Table 8).

Note 38: *Of the 287 days of EOT granted, 99 days were due to inclement weather.*

Table 8

**Total contract expenditure of Contract C
(November 2012)**

Particulars	Amount (\$ million)
1. Contract works completed	88.9
2. Payment for contract price fluctuation (Note)	12.9
Total contract expenditure	101.8

Source: CEDD records

Note: Of the \$12.9 million payment for contract price fluctuation, \$4.1 million was provision for price fluctuation adjustments included in the original contract sum.

Administration of Contract C

4.14 Audit noted that there was room for improvement in CEDD's administration of Contract C (see paras. 4.15 to 4.21).

Scope for improvement in ordering works variations

4.15 According to CEDD requirements:

- (a) when the need to order a variation arises, consultants (when acting as the Engineer of a works contract) must assess its value in order to determine whether or not prior approval from CEDD is required (Note 39); and
- (b) the value of the variation shall include the estimated cost of the varied works and any likely prolongation/disruption costs.

4.16 For three VOs (VOs C to E — see Table 9) under Contract C issued between January 2009 and April 2010, Audit noted that:

- (a) the actual costs of the three VOs increased by 280% to 327% (see Table 9) as compared with the estimated costs; and

Note 39: *According to Consultancy Y and the then prevailing CEDD requirements, regarding the VOs issued under Contract C, the approving authority for a proposed VO was determined based on the estimated cost for the proposed VO as follows:*

<i>Estimated cost for proposed VO</i>	<i>Approving authority</i>
<i>\$0.3 million or below</i>	<i>Consultant X</i>
<i>\$1 million or below</i>	<i>Officer at D1 rank</i>
<i>\$3 million or below</i>	<i>Officer at D2 rank or above</i>
<i>Exceeding \$3 million</i>	<i>Controlling Officer</i>

- (b) the actual costs of the three VOs exceeded the approving authority of the officer approving their issuance (see Table 9). At the time of implementing Contract C, CEDD had no specific guidelines on this. According to CEDD, in May 2019 (after the award of Contract C), it promulgated guidelines for dealing with a variation with value exceeding its estimate made at the time of approval (Note 40). Audit noted that, as of February 2021, the Project Administration Handbook had not yet incorporated such guidelines.

Note 40: *According to CEDD guidelines, if the value of a variation exceeds its estimate made at the time of approval due to any reason other than contract price fluctuation, the following actions are required: (a) if the increase is due to a change in scope or a change in the nature of the original variation, the whole variation as changed shall be treated as a new variation and all necessary approvals as required should be obtained; and (b) if the increase is due to any other reasons (e.g. under-estimation, remeasurement and change in rates), the public officer of appropriate rank should be notified (via the original approving officer) with explanations of such increase. If the increased value of the variation is still within the approval limit of the original approving officer, only notification to the original approving officer is required.*

Table 9

Three VOs issued under Contract C with significant cost increase
(November 2012)

VO	Date of issue	Works	Estimated cost (a) (\$)	Actual cost (Note 1) (b) (\$)	Cost increase (c) = (b) – (a) (\$)
C	11.2.2010	Extension of works site	280,000	1,196,368	916,368 (327%) (Note 2)
D	16.4.2010	Slope works	280,000	1,492,890	1,099,890 (280%) (Note 3)
E	13.1.2009	Slope works	113,000		

Source: CEDD records

Note 1: VOs D and E were combined for valuation by Consultant X. The actual costs of VOs C to E (about \$1.2 million for VO C and about \$1.5 million for VOs D and E) exceeded the approving authority of the officer approving their issuance (i.e. Consultant X whose financial authority was up to \$0.3 million).

Note 2: In August 2008, Consultant X issued VO C to Contractor C to extend the works site under a section of works of Contract C. Since the issuance of VO C in August 2008, Consultant X had revised VO C four times (between April 2009 and February 2010) to instruct Contractor C to take up the maintenance (and related works) of additional and enlarged portions of the development site. In the event, Contractor C had taken up eight additional portions of the development site for maintenance, leading to the cost increase for VO C.

Note 3: According to CEDD, the cost increase for VOs D and E was mainly due to the changes in quantities and rates of the no-fines concrete (i.e. concrete of high water permeability).

4.17 In Audit's view, in administration of a works contract in future, CEDD needs to:

- (a) take measures to enhance the accuracy of cost estimate for works variations as far as practicable; and
- (b) remind its staff and consultants to follow its guidelines for dealing with a variation with value exceeding its estimate made at the time of approval (see para. 4.16(b)).

In this connection, Audit considers that there is merit for CEDD to consider incorporating into the Project Administration Handbook its guidelines for dealing with a variation with value exceeding its estimate made at the time of approval (see para. 4.16(b)).

Discrepancies between BQ items and contract drawings

4.18 Contract drawings of Contract C required the use of steel of Grade 55C and Grade S355 for the steelwork of Footbridges B and C. However, according to Consultant X, only BQ items of steel of Grade 43 which did not fulfil the requirement were included in Contract C. Consultant X considered that the steelwork of Footbridges B and C were omitted in BQ. In the event, CEDD paid \$1.2 million to Contractor C for carrying out the works of the omitted items (Note 41).

4.19 According to the Project Administration Handbook, the documents forming a contract must be scrutinised for comprehensive coverage, accuracy and consistency with one another before tenders are invited. Audit noted that there were discrepancies between BQ items and contract drawings of Contract C relating to the steelwork of Footbridges B and C, leading to omission of related works items in BQ.

Note 41: *An omitted item refers to the omission of an appropriate item in BQ for the works which are shown/provided in the contract drawings or specifications. According to the General Conditions of Contract for Civil Engineering Works, for an omitted item: (a) the contractor is required to carry out the works of the omitted item; and (b) the Engineer shall correct any such omission, and ascertain and certify the value of the works actually carried out.*

Administration of Contracts B and C

4.20 In 2014 (after the award of Contract C), CEDD amended the Project Administration Handbook to provide further guidelines on checking the completeness and accuracy of BQ and related documents, including:

- (a) introduction of a pre-tender cross-checking procedure in the preparation of BQ;
- (b) conduct of spot-checking on the quantities of some selected cost significant items by project office if resources permit; and
- (c) convening a meeting chaired by a project officer at a rank not lower than D1 to vet BQ and Particular Preamble (Note 42) prepared and to ensure that all the checking and cross-checking procedures have been duly completed and documented.

In Audit's view, in preparing documents for a works contract in future, CEDD needs to remind its staff and consultants to follow the related guidelines on checking the completeness and accuracy of BQ and related documents.

Audit recommendations

4.21 **Audit has *recommended* that the Director of Civil Engineering and Development should:**

- (a) **in administration of a works contract in future:**
 - (i) **take measures to enhance the accuracy of cost estimate for works variations as far as practicable; and**

Note 42: *The Standard Method of Measurement for Civil Engineering Works lays down the method and criteria for the measurement of civil engineering works undertaken for the Government. Any methods of measurement which are not in accordance with or included in the Standard Method of Measurement for Civil Engineering Works shall be stated in a Particular Preamble to BQ.*

- (ii) **remind CEDD staff and consultants to follow CEDD guidelines for dealing with a variation with value exceeding its estimate made at the time of approval;**
- (b) **consider incorporating into the Project Administration Handbook CEDD guidelines for dealing with a variation with value exceeding its estimate made at the time of approval; and**
- (c) **in preparing documents for a works contract in future, remind CEDD staff and consultants to follow the related guidelines on checking the completeness and accuracy of BQ and related documents.**

Response from the Government

4.22 The Director of Civil Engineering and Development agrees with the audit recommendations.

Acronyms and abbreviations

APE	Approved project estimate
Audit	Audit Commission
BQ	Bills of Quantities
CEDD	Civil Engineering and Development Department
DEVB	Development Bureau
EOTs	Extensions of time
FC	Finance Committee
FSTB	Financial Services and the Treasury Bureau
GEO	Geotechnical Engineering Office
ha	Hectares
LAD	Legal Advisory Division (Works)
LegCo	Legislative Council
m	Metres
m ³	Cubic metres
THB	Transport and Housing Bureau
VO	Variation order

CHAPTER 7

**Environment Bureau
Drainage Services Department**

**Upgrading and operation of
Pillar Point Sewage Treatment Works**

**Audit Commission
Hong Kong
31 March 2021**

This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 76 of the Director of Audit contains 7 Chapters which are available on our website at <https://www.aud.gov.hk>

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UPGRADING AND OPERATION OF PILLAR POINT SEWAGE TREATMENT WORKS

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UPGRADING AND OPERATION OF PILLAR POINT SEWAGE TREATMENT WORKS

Executive Summary

1. The Pillar Point Sewage Treatment Works (PPSTW) in Tuen Mun was built in 1982. It was designed for providing preliminary treatment of sewage from the Tuen Mun district before discharging to the marine waters at the Urmston Road channel to the south west of Tuen Mun. It also provides septic waste reception and treatment facilities to handle septic waste delivered to it. In 2001, to cater for the increase in population and planned new developments in Tuen Mun district and to improve the quality of the effluent discharged from PPSTW, the Environmental Protection Department (EPD) considered that there was a need to upgrade the capacity and treatment level of PPSTW. The Drainage Services Department (DSD) is responsible for the design and construction of the upgrading works and operation of the upgraded PPSTW. The Environment Bureau is responsible for policy matters on environmental protection and for overseeing the operation of DSD and EPD on the provision of sewerage and sewage treatment services.

2. DSD adopted a design-build-operate (DBO) arrangement for implementing the upgrading and operation of PPSTW, and it was DSD's first pilot use of DBO arrangement for a sewage treatment project. In July 2009, the Finance Committee (FC) of the Legislative Council approved the upgrading works of PPSTW at an approved project estimate (APE) of \$1,360.9 million. In July 2010, FC approved an increase in APE by \$559.6 million to \$1,920.5 million. In June 2005, DSD awarded a consultancy agreement (Consultancy X) to a consultant (Consultant X) for the upgrading works. In July 2010, DSD awarded a DBO contract (Contract A) to a contractor (Contractor A) for the design and construction of the upgrading works of PPSTW and operation and maintenance of the upgraded PPSTW. The design and construction of the upgrading works of PPSTW commenced in July 2010 and were substantially completed on 17 May 2014. As of October 2020, the total project expenditure was \$1,858.9 million. The operation of the upgraded PPSTW commenced on 18 May 2014. Contractor A would operate the plant for 10 years and DSD has an option to extend the operation period for a further five years. The total operation payment to Contractor A since commissioning of the upgraded PPSTW and up to 31 March 2020 was about

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\$412 million. The Audit Commission (Audit) has recently conducted a review of the upgrading and operation of PPSTW.

Upgrading works of Pillar Point Sewage Treatment Works

3. ***Early deterioration of concrete protective coating.*** According to Contract A, all concrete structures that may be in contact with sewage shall be protected by liquid applied membrane system, which shall give a minimum of 10-year protection to the concrete. According to DSD, a polyurea-based coating was adopted by Contractor A to the concrete surfaces of the newly constructed structures. However, since December 2013, deterioration of the protective coating had been found by Consultant X. In March 2015, about 15% of the membrane was found peeling off. In July 2016, significant portions of the membrane were found peeling off from some structures (e.g. coarse screen channels and manholes) which became exposed and corroded. According to DSD: (a) Contractor A had carried out small-scale trial tests to identify more durable protective coatings than the polyurea-based coating used. As of February 2021, two types of coatings had been used for repairing the peeled-off concrete coating and the works were completed in March 2020; and (b) in November 2020, DSD appointed a local university to carry out an investigation on the failure of concrete protective coating to identify the root cause of the matter (expected to be completed by November 2021). In Audit's view, DSD needs to continue to monitor the performance of the new types of protective coatings and complete the investigation as early as practicable (paras. 2.7 to 2.10).

4. ***Automatic cleaning system of ultraviolet (UV) disinfection facilities not fully functioning.*** After chemically enhanced primary treatment (CEPT) process at the upgraded PPSTW, sewage is fed into the UV disinfection facilities for disinfection by the UV lamps. The UV lamps were fitted with a mechanical/chemical cleaning system to reduce fouling of the lamps, thereby maximising the disinfection performance. According to Consultant X, in April 2014 (i.e. one month before the commissioning of upgraded PPSTW in May 2014), it found that the automatic cleaning system of the UV disinfection facilities could not perform well in keeping the sleeves of the UV lamps clean, thus causing high *Escherichia coli* (*E. coli*) counts in the treated effluent. According to Contractor A, one of the factors leading to the failure of the automatic cleaning system was the formation of ferric sulphide on the sleeves of the UV lamps during CEPT process, which affected the functioning of hydraulic cylinders of the system. Contractor A set up a cleaning team in July 2014 to clean the UV sleeves manually in order to

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restore the performance of the UV disinfection system until a permanent solution was in place, and replacement of hydraulic cylinders were carried out from July to October 2014 as immediate mitigation. In Audit's view, DSD needs to keep under review the operation of the automatic cleaning system and explore further measures for enhancing its effectiveness (paras. 2.11 to 2.13 and 2.16).

5. *Need to ensure compliance with contract requirements relating to materials for equipment/facilities.* Contract A specified the requirements for the material used in fine screens. In November 2014, it was found that the materials of chain in the fine screens at the upgraded PPSTW included one grade of stainless steel which was at variance with the grade specified under the contract requirements and there was a durability issue as the main difference between the two grades was corrosion resistance. In the event, all the chains were replaced by Contractor A at its sole cost in August 2015. In March 2021, DSD informed Audit that additional measures for ensuring the contractor's compliance with contract requirements relating to materials for equipment/facilities had been taken by DSD in the upgrading works project of the San Wai Sewage Treatment Works (which was under a DBO contract awarded in May 2016 (after the award of Contract A) and commenced operation in March 2021). In Audit's view, DSD needs to keep under review the effectiveness of such measures (paras. 2.17 to 2.20 and 4.4).

6. *Need to ensure timely completion of defects correction.* According to Contract A, Contractor A should carry out the outstanding works and the relevant works to repair, rectify or make good any defect, imperfection or other fault in the construction works at its own cost within the one-year defects correction period which commenced after the substantial completion of construction works in May 2014 (i.e. defects correction period expired in May 2015). Audit noted that Contractor A completed its obligation in respect of defects correction in November 2015 (i.e. 6 months after the expiry of the defects correction period) (paras. 2.28 and 2.29).

7. *Need to ensure timely finalisation of contract accounts.* According to Financial Circular No. 7/2017, for a DBO contract, accounts of the design and build portions of the contract should be finalised as soon as possible and in any event not later than three years after the completion of the design and build portions. Audit noted that the account of Contract A in respect of the design and build portions was finalised in November 2017 (i.e. 3.5 years after the substantial completion of the upgrading works of PPSTW in May 2014), exceeding the 3-year time limit specified in the Financial Circular (paras. 2.32 and 2.33).

Monitoring of operation of upgraded Pillar Point Sewage Treatment Works

8. *Non-compliances with some Key Performance Indicators (KPIs).* According to Contract A, there are 13 KPIs (covering effluent quality, environmental monitoring, and administration and reporting) for measuring the performance of Contractor A in operating the upgraded PPSTW. The monthly operation payment to Contractor A is adjusted to reflect the level of performance achieved, which is assessed based on monitoring results on KPIs in the reporting month. Since commissioning of the upgraded PPSTW in May 2014 and up to October 2020, DSD had deducted a total of \$565,920 from payment to Contractor A on 8 occasions involving non-compliances with 5 of the 13 KPIs. The non-compliance involving the highest amount (\$460,980) of payment deduction (accounting for 81% of the total of \$565,920) was related to an unauthorised emergency bypass incident in August 2014. The incident lasted for about 11 hours with about 95,000 cubic metres untreated sewage discharged and, as a result, 14 beaches were closed for about two days. According to DSD: (a) the direct cause leading to the bypass incident was mechanical failure of all the four fine screens; (b) the main contributing factors included inadequate experience of Contractor A's operation staff and lack of adequate awareness of risks by Contractor A; and (c) follow-up actions had been implemented to prevent recurrence of the incident. In Audit's view, the payment deductions relating to non-compliances with five KPIs on various occasions indicate scope for improvement in Contractor A's performance (paras. 3.4, 3.5, 3.8, 3.9 and 3.11).

9. *Scope for improving demerit point mechanism.* According to Contract A, demerit points are assigned for non-compliances with KPIs, which provide the basis for payment deduction from Contractor A. Audit noted that: (a) the total payment deduction for non-compliances with KPIs is capped at 32% of the monthly operation payment under Contract A. For the DBO contract of the San Wai Sewage Treatment Works awarded in May 2016 (after the award of Contract A), the maximum payment deduction is 40% (i.e. 8 percentage points higher); and (b) for unauthorised emergency bypass, deduction can only be made for one event in each month at the maximum under Contract A (without taking into account the gravity of the event). For the San Wai Sewage Treatment Works contract, the assignment of demerit points to unauthorised emergency bypass in a month is linked to the duration of the bypass. In March 2021, DSD informed Audit that it aimed to start reviewing the demerit point mechanism of Contract A in mid-2022 (when reviewing

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the further five-year extension of Contract A from May 2024 to May 2029 — see para. 2). In Audit's view, DSD needs to conduct the review as scheduled and complete it timely (paras. 3.12 to 3.15).

10. ***High *E. coli* concentration found in some effluent samples of DSD's surprise checks.*** According to DSD, it has developed a surprise checking mechanism for better monitoring of Contractor A's performance, and its surprise checks serve as quality assurance and aim to provide additional checking on effluent quality at different time slots. DSD conducted surprise checks for *E. coli* concentration in effluent of PPSTW on 161 days from April 2019 to October 2020. It considered that there were 23 (14%) days with high *E. coli* concentration (i.e. exceeding 300,000 counts per 100 millilitres) in effluent and requested Contractor A to investigate the reasons. Audit noted that: (a) for the 23 days, the time taken for completion of the investigations by Contractor A (counting from DSD's surprise checking dates) ranged from 9 days to about 20 months (averaging about 3.5 months). In particular, for 3 days, the investigation results were only available after one year; and (b) while there was an established practice for the surprise checking mechanism, DSD had not promulgated guidelines in this regard (paras. 3.16 to 3.18).

11. ***Scope for enhancing occupational safety at PPSTW.*** According to Contract A, Contractor A is required to ensure that all operations are conducted in such a manner so as to eliminate the risks to persons, property and equipment. Audit noted the following instances involving occupational safety at PPSTW: (a) a fatal accident occurred in October 2014, with a worker of Contractor A suspected to have fallen into a terminal manhole and his body was found one month later. The Labour Department (LD) prosecuted Contractor A for violation of the Occupational Safety and Health Ordinance (Cap. 509) for the fatal accident and Contractor A was convicted and fined a total of \$145,000 in September 2015. However, Audit noted that DSD had not taken adequate and timely follow-up actions on Contractor A with regard to the fatal accident. It was only in March 2021 that DSD sent a written request to LD asking for information on the cause of the accident and issued an under-performance notice to Contractor A for poor provision of safety measures during work; (b) two incidents involving injuries occurred in October 2015 and April 2018 respectively. DSD had issued under-performance notices to Contractor A for the two incidents; and (c) there were unauthorised entries of workers of Contractor A into confined space without proper certificates in September 2017, January 2018 and September 2020 respectively. DSD had issued warning letters to Contractor A for the incidents (paras. 3.20 to 3.22 and 3.24).

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12. *Scope for enhancing the monitoring of preventive maintenance.* Contractor A is required under Contract A to maintain a Computerised Maintenance Management System (CMM System) to facilitate management of corrective and preventive maintenance of PPSTW, and carry out preventive maintenance according to the schedules as specified in the contract as a minimum. According to CMM System records, there were 16,952 preventive maintenance tasks (involving 432 equipment items) completed during the period of some 5.5 years from January 2015 to October 2020. Audit selected 20 equipment items for which preventive maintenance was carried out once during the period, and noted that their maintenance frequency fell short of the required minimum frequency of once every six months or every year under Contract A. According to DSD: (a) Contractor A had fine-tuned the preventive maintenance schedules to meet the operational needs of the plant; and (b) some maintenance records were not included in CMM System and were maintained in manual records. Audit noted that there was no readily available information on the revisions made to the preventive maintenance schedules in Contract A (paras. 3.30, 3.34 to 3.38).

13. *Need to ensure the timely completion of maintenance tasks and compile regular management information on maintenance.* According to CMM System records, there were 7,572 maintenance tasks (7,313 for preventive maintenance and 259 for corrective maintenance) completed between January 2019 and October 2020. Audit noted that: (a) there was delay in completion for 2,108 (29%) of the 7,313 preventive maintenance tasks, ranging from 1 day to 1 year (averaging 12 days) after target completion dates. For the 259 corrective maintenance tasks, there was delay in completion for one task for about 5 months; and (b) DSD had not regularly compiled management information (e.g. highlights or summaries) on maintenance carried out at PPSTW (para. 3.40).

Administration of design-build-operate contract arrangement

14. After the award of the first DBO contract (i.e. Contract A) in July 2010, two more DBO contracts were awarded by DSD for other sewage treatment works in June 2013 and May 2016 respectively. According to DSD, the experience gained during the implementation of Contract A would be a valuable reference for future contract arrangement of projects of sewage treatment works (paras. 4.4 and 4.5).

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15. ***Need to keep under review the cost-effectiveness of adopting DBO contract arrangement.*** In July 2010, FC approved an increase of the APE by \$559.6 million (41%) to \$1,920.5 million for meeting the required expenditure of the upgrading works. The justifications for the cost increase provided by the Environment Bureau included: (a) additional capital cost of \$403.1 million was required for developing a sewage treatment plant design that fulfilled specified performance requirements and for achieving higher cost-effectiveness in subsequent operations; and (b) it was expected that the estimated annual recurrent expenditure arising from the upgrading works for the operation stage would be decreased by \$30 million and overall savings of \$450 million would be yielded over the 15-year life cycle (see para. 2) of the upgraded PPSTW. As of January 2021, the upgraded PPSTW had been operated for about 6.5 years. According to DSD, the actual operation expenditure in general reflected that the estimated annual saving of \$30 million had been achieved. In Audit's view, DSD needs to keep under review the savings achieved in operating the upgraded PPSTW (paras. 4.8 and 4.9).

16. ***Need to timely conduct post-completion review.*** According to the Project Administration Handbook for Civil Engineering Works, a post-completion review: (a) is a useful project management tool; (b) is generally not warranted for consultancy agreements and works contracts of a project which has a total cost less than \$500 million; and (c) should be carried out within a reasonable period, say six months, after the substantial completion of a consultancy agreement or a works contract. Audit noted that the design and construction portions of Contract A were already substantially completed in May 2014 and the total contract expenditure (\$1,774.7 million) was much higher than \$500 million. However, as of January 2021 (more than six years thereafter), DSD had not conducted a post-completion review for the design and construction portions of Contract A (paras. 4.10 and 4.11).

17. ***Scope for making better use of Knowledge Management Portal in sharing experience gained.*** According to DSD, the experience gained during the implementation of Contract A would be a valuable reference for future procurement of sewage treatment works projects and should be properly included in the Knowledge Management Portal of DSD. Audit noted that, regarding the information for DBO contracts, as of January 2021: (a) the Portal only contained a PowerPoint presentation on DBO contract procurement dated November 2016 (i.e. more than 4 years ago); and (b) DSD's experience gained in monitoring the operation of the upgraded PPSTW was not posted onto the Portal (para. 4.14).

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Audit recommendations

18. Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director of Drainage Services should:

Upgrading works of Pillar Point Sewage Treatment Works

- (a) continue to monitor the performance of the new types of protective coatings for repairing the peeled-off concrete coating at PPSTW and complete the investigation on the failure of the concrete protective coating at PPSTW as early as practicable (para. 2.21(a));
- (b) keep under review the operation of the automatic cleaning system of UV disinfection facilities at PPSTW and explore further measures for enhancing its effectiveness (para. 2.21(b)(i));
- (c) keep under review the effectiveness of the additional measures implemented at other sewage treatment works for ensuring the contractor's compliance with contract requirements relating to materials for equipment/facilities (para. 2.21(c));
- (d) take measures to ensure the timely completion of defects correction by the contractor of a works project and the timely finalisation of accounts of the design and build portions of a DBO contract (para. 2.35(c) and (d));

Monitoring of operation of upgraded Pillar Point Sewage Treatment Works

- (e) continue to closely monitor the performance of the contractor in operating PPSTW including compliances with KPIs, and review the demerit point mechanism of the contract as scheduled and complete it timely (para. 3.27(a) and (b));
- (f) take timely actions to investigate the reasons for high *E. coli* concentration in effluent found by DSD's surprise checks at PPSTW and address the issues identified (para. 3.27(c));

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- (g) formalise the existing practice and promulgate guidelines on DSD's surprise checks conducted on effluent quality of PPSTW (para. 3.27(d));
- (h) take adequate and timely follow-up actions on incidents relating to occupational safety at PPSTW and make continued efforts to enhance the occupational safety at PPSTW (para. 3.27(f) and (g));
- (i) enhance the documentation of the revisions made to the preventive maintenance schedules in the PPSTW contract (para. 3.45(b)(i));
- (j) strengthen measures to ensure that the maintenance for equipment and facilities at PPSTW is timely completed, and regularly compile management information on maintenance carried out at PPSTW for monitoring purpose (para. 3.45(c) and (e));

Administration of design-build-operate contract arrangement

- (k) keep under review the savings achieved in operating the upgraded PPSTW under the DBO contract arrangement (para. 4.16(a));
- (l) conduct a post-completion review for the design and construction portions of Contract A (para. 4.16(b)); and
- (m) make better use of the Knowledge Management Portal in sharing experience gained from DBO contract arrangement (para. 4.16(c)).

Response from the Government

19. The Director of Drainage Services agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 The Pillar Point Sewage Treatment Works (PPSTW) in Tuen Mun was built in 1982. It was designed for providing preliminary treatment (Note 1) of sewage from the Tuen Mun district before discharging to the marine waters at the Urmston Road channel to the south west of Tuen Mun. PPSTW also provides septic waste reception and treatment facilities to handle septic waste delivered to it by septic waste collection contractors.

1.3 The Environmental Protection Department (EPD) is responsible for planning the infrastructure required for collecting and treating sewage and monitoring the marine water quality. In 2001, to cater for the increase in population and planned new developments in Tuen Mun district and to improve the quality of the effluent discharged from PPSTW, EPD considered that there was a need to upgrade the capacity and treatment level of PPSTW. The Drainage Services Department (DSD) is responsible for the design and construction of the upgrading works and operation of the upgraded PPSTW. The Environment Bureau (Note 2) is responsible for policy matters on environmental protection and for overseeing the operation of DSD and EPD on the provision of sewerage and sewage treatment services.

Note 1: *Preliminary treatment includes screening and removal of grits (e.g. sands and bone pieces) from the sewage.*

Note 2: *In July 2007, the Environment Bureau was formed to take over the policy responsibility for environmental matters. Before July 2007, the policy responsibility rested with the then Environment, Transport and Works Bureau (July 2002 to June 2007), the then Environment and Food Bureau (January 2000 to June 2002), the then Planning, Environment and Lands Bureau (July 1997 to December 1999) and the then Planning, Environment and Lands Branch (before July 1997).*

Introduction

1.4 DSD adopted a design-build-operate (DBO — Note 3) arrangement for implementing the upgrading and operation of PPSTW, and it was DSD's first pilot use of DBO arrangement for a sewage treatment project. The design and construction works commenced in July 2010 and were substantially completed in May 2014. The upgraded PPSTW commenced operation in May 2014.

Upgrading works of PPSTW

1.5 The scope of the upgrading works of PPSTW was as follows:

- (a) upgrading of the sewage treatment level from preliminary treatment to chemically enhanced primary treatment (CEPT — Note 4) with ultraviolet (UV) disinfection treatment process;
- (b) expansion of the treatment capacity from 215,000 cubic metres (m³) per day to 241,000 m³ per day;
- (c) provision of new septic waste reception and treatment facilities to cater for septic waste of 1,200 m³ per day; and
- (d) provision of ancillary works (e.g. roadwork and landscaping work).

Photograph 1 shows the upgraded PPSTW.

Note 3: *DBO is a form of contract procurement whereby the contractor is required to design and construct a proposed facility in accordance with all requirements set forth in the contract by the Government. Upon completion, the contractor will be required under the contract to operate and maintain the completed facility for a specified period of time. The ownership of the facility will remain with the Government throughout the contract duration. Upon expiry of the operation phase specified in the contract, the facility will be handed back to the Government free of any charges in a specified condition.*

Note 4: *Primary treatment includes preliminary treatment process (i.e. screening and removal of grits) and a primary sedimentation process for removal of settleable suspended solids from the sewage. For CEPT, chemicals are added during the primary sedimentation process to enhance the removal of suspended solids.*

Photograph 1

Upgraded PPSTW



Source: DSD records

1.6 In July 2009, the Finance Committee (FC) of the Legislative Council (LegCo) approved the upgrading works of PPSTW at an approved project estimate (APE) of \$1,360.9 million. In July 2010, FC approved an increase in APE by \$559.6 million to \$1,920.5 million (see Table 1).

Table 1

**Funding approvals for the upgrading works of PPSTW
(July 2009 to July 2010)**

Date	Particulars	Approved amount (\$ million)
July 2009	Design and construction of the upgrading works	1,360.9
July 2010	Increase in APE to cover the higher design and construction cost (Note) and increase in the provision for price adjustment	559.6
Total		1,920.5

Source: DSD records

Note: According to DSD, the proposed design with higher design and construction cost would yield significant reduction in subsequent operation cost for 15 years (see para. 1.8(b)) resulting in a net saving of the whole life-cycle cost (see para. 4.8).

1.7 In June 2005, DSD awarded a consultancy agreement (Consultancy X) to a consultant (Consultant X) for the upgrading works, which involved a DBO contract (Contract A — see para. 1.8). Being the Supervising Officer for the DBO contract, Consultant X's services included supervising the design and construction of the upgrading works and the first-year operation of the upgraded PPSTW. The consultancy was completed in March 2018. As of October 2020, consultancy fees of \$17.9 million had been paid to Consultant X (Note 5).

Note 5: *The consultancy fees for planning work before Contract A was awarded (e.g. environmental impact assessment, reference design, contract strategy development, contract documentation and tender) of \$12.2 million in total were funded under the block allocation Subhead 4100DX of the Capital Works Reserve Fund Head 704 under the control of DSD. The consultancy fees incurred after Contract A was awarded (i.e. during design, build, commissioning and initial operation stage) of \$5.7 million were funded under the project vote (see para. 1.6).*

1.8 In July 2010, DSD awarded Contract A to a contractor (Contractor A) for the design and construction of the upgrading works of PPSTW and operation and maintenance of the upgraded PPSTW at a contract sum of \$2,673.7 million (Note 6), which comprised:

- (a) \$1,664.5 million (62%) for the design and construction of the upgrading works and interim operation (Note 7) of the existing treatment plant during the design and construction period; and
- (b) \$1,009.2 million (38%) for the operation stage (covering the contractual operation period of 15 years, viz. the 10 years after completion of the construction works and the option to extend the operation period for a further five years — see para. 1.12).

1.9 The design and construction of the upgrading works of PPSTW commenced in July 2010 and were substantially completed on 17 May 2014. The operation stage commenced on 18 May 2014.

1.10 The account of Contract A relating to design and construction portions (including interim operation of the existing treatment plant during the design and construction period — see para. 1.8(a)) was finalised in November 2017. The final contract sum was \$1,774.7 million (see Table 2).

Note 6: *In January 2010, the Central Tender Board advised DSD to conduct contract price negotiation with the recommended tenderer. After tender negotiation, the contract sum (reduced to \$2,673.7 million) was approved by the Financial Services and the Treasury Bureau in April 2010.*

Note 7: *Interim operation referred to the period between the date of handover of the existing plant from DSD to the contractor and the completion date of design and construction of the upgrading works. During the interim operation period, the contractor would take over the existing facilities from DSD and continue the operation and maintenance of the existing facilities in accordance with the DBO contract.*

Table 2

**Expenditure of Contract A relating to design and construction portions
(October 2020)**

Original contract sum (a)	Final contract sum (b)	Increase (c) = (b) – (a)	Increase in provision for price fluctuation adjustment (d)	Decrease after price fluctuation adjustment (e) = (c) – (d)
(\$ million)				
1,664.5	1,774.7 (Note 1)	110.2 (6.6%)	192.9 (11.6%) (Note 2)	(82.7)

Source: DSD records

Note 1: The funding for the expenditure of \$1,774.7 million was as follows:

- (a) expenditure of \$1,754.1 million under Contract A was funded under the project vote (see para. 1.6);*
- (b) expenditure of \$5.7 million for inspection and desilting works for submarine outfall pipes carried out by Contractor A as instructed by Consultant X in March 2015 was charged to an item under block allocation Subhead 4100DX of the Capital Works Reserve Fund Head 704; and*
- (c) the operating costs for interim operation of \$14.9 million was provided from one DSD Subhead of the General Revenue Account.*

Note 2: The original contract sum already included provision for price fluctuation adjustment. These were additional sums to cover excessive price fluctuation adjustment.

1.11 As of October 2020, the total project expenditure was \$1,858.9 million (\$61.6 million below the final APE of \$1,920.5 million — see para. 1.6). Of the \$1,858.9 million, \$1,754.1 million (94%) was related to expenditure under Contract A (see Note 1 to Table 2 in para. 1.10). The remaining \$104.8 million

(6%) comprised resident site staff costs (\$96.1 million — Note 8), consultancy fees (\$5.7 million — see Note 5 to para. 1.7) and other miscellaneous costs (\$3 million).

Operation of upgraded PPSTW

1.12 The operation of the upgraded PPSTW commenced on 18 May 2014. Contractor A would operate the plant for 10 years and DSD has an option to extend the operation period for a further five years. For the first-year operation of the upgraded PPSTW, Consultant X was the Supervising Officer for Contract A and responsible for supervising Contractor A's operation and reporting Contractor A's performance to DSD. After the first-year operation (i.e. since 18 May 2015), DSD has fully taken up the work for monitoring (including supervising) Contractor A's operation.

1.13 Under Contract A, there is a set of Key Performance Indicators (KPIs) for measuring the performance of Contractor A. The monthly payment to Contractor A for operation of the upgraded PPSTW consists of:

- (a) a fixed fee, which covers maintenance, overhauling and operation of the facilities; and
- (b) a variable fee, which is based on the actual volume of treated effluent.

The monthly payment to Contractor A is adjusted to reflect the level of performance achieved, which is assessed based on monitoring results on KPIs in the reporting month.

Note 8: *Resident site staff are employed by the consultant to carry out the duties stipulated in the consultancy agreement for supervising the contractors' works. The Government reimburses the consultant for the salaries and remuneration (e.g. mandatory provident fund and medical benefits) it paid for the employment of resident site staff.*

Introduction

1.14 According to DSD, from January to October 2020, the average volume of sewage treated by PPSTW was about 185,000 m³ per day (i.e. about 77% of the design capacity of 241,000 m³ per day) and that of septic waste received was about 1,050 m³ per day (i.e. about 88% of the design capacity of 1,200 m³ per day). In 2019-20, the payment to Contractor A for operation of PPSTW was about \$84 million. The total operation payment to Contractor A since commissioning of the upgraded PPSTW (i.e. 18 May 2014) and up to 31 March 2020 was about \$412 million.

Responsible divisions of DSD

1.15 The Harbour Area Treatment Scheme Division under DSD's Sewage Services Branch was responsible for monitoring the design and construction of the upgrading works of PPSTW and the first-year operation of the upgraded PPSTW. After the first-year operation (i.e. since 18 May 2015), the Sewage Treatment Division 1 under DSD's Electrical and Mechanical Branch has taken over the monitoring of the operation of PPSTW. An extract of DSD's organisation chart as at 31 October 2020 is at Appendix A. As of October 2020, 7 staff in the Sewage Treatment Division 1 were involved in monitoring the operation of PPSTW (Note 9). According to DSD, the related staff expenditure incurred solely for monitoring the operation of PPSTW for 2019-20 was about \$1.7 million.

Note 9: *According to DSD, the 7 staff were also involved in monitoring the operation of other sewage treatment works and flood control facilities in North West New Territories, Sham Tseng and Tuen Mun Region.*

Audit review

1.16 In November 2020, the Audit Commission (Audit) commenced a review of the upgrading and operation of PPSTW. The audit review has focused on the following areas:

- (a) upgrading works of PPSTW (PART 2);
- (b) monitoring of operation of upgraded PPSTW (PART 3); and
- (c) administration of DBO contract arrangement (PART 4).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

Acknowledgement

1.17 During the audit review, in light of the outbreak of coronavirus disease (COVID-19), the Government had implemented various special work arrangements and targeted measures for government employees, including working from home. Audit would like to acknowledge with gratitude the full cooperation of the staff of DSD during the course of the audit review amid the COVID-19 epidemic.

PART 2: UPGRADING WORKS OF PILLAR POINT SEWAGE TREATMENT WORKS

2.1 This PART examines DSD's work in managing the upgrading works of PPSTW, focusing on:

- (a) design and construction of upgrading works (paras. 2.6 to 2.22); and
- (b) other contract management issues (paras. 2.23 to 2.36).

Contract A

2.2 In July 2010, DSD awarded Contract A to Contractor A for the upgrading works of PPSTW and the operation of the upgraded PPSTW at a contract sum of \$2,673.7 million, comprising \$1,664.5 million for the design and construction portions (including interim operation of the existing treatment plant during the design and construction period) and \$1,009.2 million for the operation stage (Note 10).

2.3 The design and construction works commenced in July 2010 and were originally scheduled for completion on 25 November 2013. Consultant X was the Supervising Officer responsible for supervising the design and construction of the upgrading works. Due to inclement weather, Contractor A was granted extensions of time totalling 5.7 months (173 days) in accordance with Contract A, and the contract works (i.e. the design and construction portions) were substantially completed on 17 May 2014. The operation stage (i.e. 10 years plus an optional extension of 5 years) commenced on 18 May 2014. Consultant X was responsible for supervising the first-year operation of the upgraded PPSTW and the role of Supervising Officer was handed over to DSD in May 2015.

Note 10: *Contract A sets out, among others, the Employer's Requirements which specify the requirements for design, construction and operation of the upgraded PPSTW. Under Contract A, payment to Contractor A would be made on a lump sum basis (for the design and construction elements) or monthly basis (for the operation and maintenance of PPSTW during the design and construction period and the operation stage), subject to price fluctuation adjustment.*

Cost increase under Contract A

2.4 The account of Contract A relating to design and construction portions (including interim operation of the existing treatment plant during the design and construction period) was finalised in November 2017 and the total contract expenditure was \$1,774.7 million (see Table 3).

Table 3

**Total contract expenditure of Contract A
relating to design and construction portions
(November 2017)**

Particulars	Amount (\$ million)
Contract works completed	1,481.8
Payment for contract price fluctuation (Note)	292.9
Total contract expenditure	1,774.7

Source: DSD records

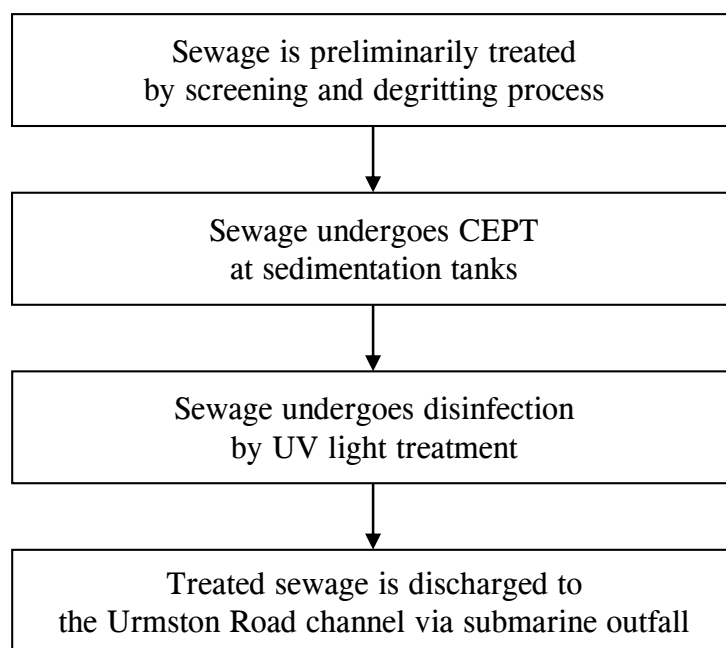
Note: Of the \$292.9 million payment for contract price fluctuation, \$100 million was provision for price fluctuation adjustment included in the original contract sum.

Sewage treatment process of upgraded PPSTW

2.5 At the upgraded PPSTW, the sewage (including septic waste collected — Note 11) is treated to the effluent standards specified in Contract A. Figure 1 shows the sewage treatment process of the upgraded PPSTW.

Figure 1

Sewage treatment process of the upgraded PPSTW



Source: DSD records

Note 11: *Septic waste collected is unloaded at septic waste reception station.*

Design and construction of upgrading works

2.6 Under Contract A, Contractor A was required to design and construct the upgrading works for PPSTW in accordance with the contract requirements. Contractor A was required to submit design submissions (Note 12) to Consultant X (Note 13) for comment and consent. Consultant X would seek advice from DSD on major aspects (e.g. process design and deviations from the contract requirements), before granting consent to Contractor A's design submissions (Note 14).

Early deterioration of concrete protective coating

2.7 According to Contract A, all concrete structures that may be in contact with sewage shall be protected by liquid applied membrane system (Note 15), which shall give a minimum of 10-year protection to the concrete.

2.8 According to DSD, a polyurea-based coating (Note 16) was adopted by Contractor A to the concrete surfaces of the newly constructed structures. However, since December 2013 (i.e. 5 months before the commissioning of upgraded PPSTW in May 2014), deterioration of the protective coating had been found by Consultant X, as follows:

Note 12: *According to Consultant X, an independent design checker of Contractor A had checked and certified that Contractor A's design complied with the relevant contract requirements.*

Note 13: *Being the Supervising Officer, Consultant X would ensure that Contractor A and independent design checker of Contractor A discharged their duties satisfactorily and the designs were in compliance with Contract A.*

Note 14: *After Consultant X's granting of approval-in-principle to Contractor A's preliminary design (with general arrangement drawings), Contractor A submitted the detailed design to Consultant X for approval.*

Note 15: *According to DSD: (a) liquid applied membrane system is a monolithic, fully-bonded and liquid-based coating system suitable for concrete protection; (b) there are different types of liquid applied membrane system; and (c) Contract A sets out that epoxy-based system should not be used.*

Note 16: *Polyurea-based coating is a type of liquid applied membrane system. According to DSD, this protective coating had also been successfully applied in other sewage treatment works of DSD.*

Upgrading works of Pillar Point Sewage Treatment Works

- (a) in early December 2013, the membrane at the fine screen channels and grit channels was found peeling off;
- (b) in November 2014 and January 2015, some peeled-off membrane was found blocking the feed tube of centrifuges in the sludge dewatering building and the intake of drainage delivery pump at CEPT area;
- (c) in March 2015 (i.e. about 10 months after the commissioning of upgraded PPSTW), about 15% of the membrane was found peeling off; and
- (d) in July 2016, significant portions of the membrane were found peeling off from some structures (e.g. coarse screen channels and manholes) which became exposed and corroded, and any delay on rectifying the problem would affect the durability of the concrete structures.

2.9 In June 2017, DSD said that if the deteriorated protective coating could not be timely repaired, this might lead to concrete spalling, failure of structure and major disruption to the treatment process. According to DSD, the following actions had been taken to address the problem:

- (a) Contractor A appointed two experts to carry out investigation. According to the investigation reports in March and July 2017, multiple potential causes (e.g. build-up of acidic vapours, chemical attack on the coating and inter-coat delamination (Note 17)) had been identified;

Note 17: *According to the investigation report, inter-coat delamination occurred in some areas where it appeared that a second coating had been applied over the first coating.*

Upgrading works of Pillar Point Sewage Treatment Works

- (b) Contractor A had carried out small-scale trial tests to identify more durable protective coatings than the polyurea-based coating used and to apply the selected coatings at critical locations (Note 18). As of February 2021, two types of coatings (i.e. a new epoxy-based coating and a calcium-aluminate-based coating) had been used for repairing the peeled-off concrete coating and the works were completed in March 2020. The new types of protective coatings applied were in good condition and their performance had been closely monitored on site; and
- (c) in November 2020, DSD appointed a local university to carry out an investigation on the failure of concrete protective coating to identify the root cause of the matter. As of January 2021, the investigation was still in progress. It was expected that the investigation would be completed by November 2021.

2.10 In Audit's view, regarding the concrete protective coating at PPSTW, DSD needs to:

- (a) continue to monitor the performance of the new types of protective coatings for repairing the peeled-off concrete coating; and
- (b) complete the investigation on the failure of the concrete protective coating (see para. 2.9(c)) as early as practicable with a view to identifying the root cause of the matter and taking necessary follow-up actions.

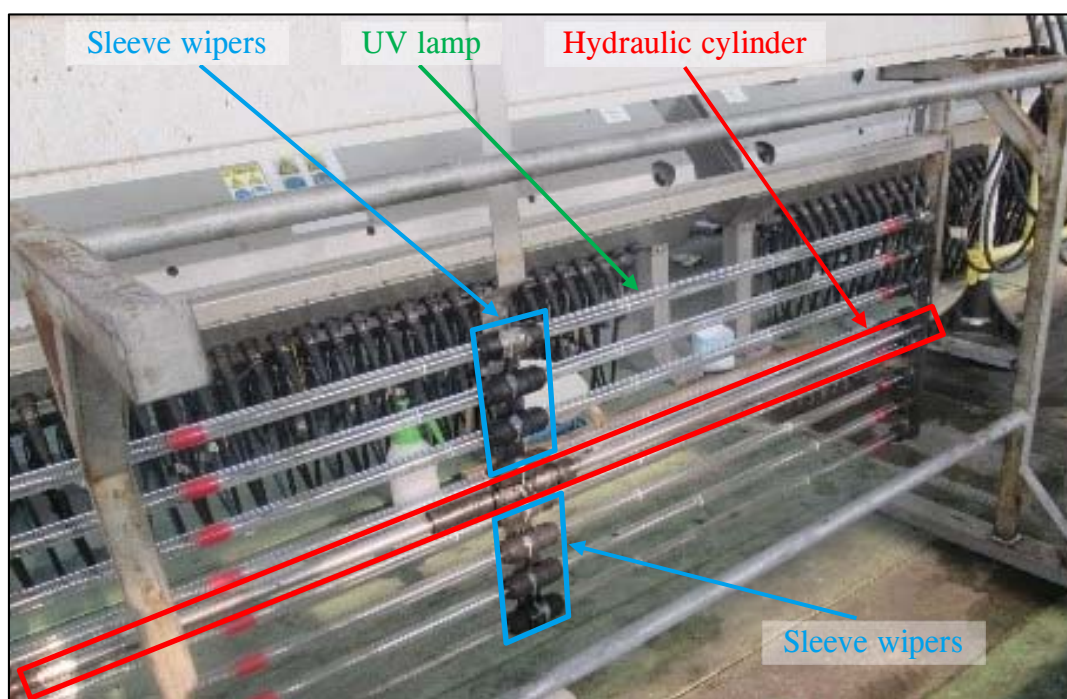
Note 18: *According to DSD, trial tests had been conducted on six brands/types of epoxy-based coatings and one calcium-aluminate-based coating. Based on the preliminary trial results, the out-performing coatings were considered suitable for application at three critical locations, namely: (a) the septic waste equalisation tank; (b) the common inlet chamber of the preliminary treatment works; and (c) the two wet wells of the preliminary treatment works. The trial and application of such coatings were covered by an Employer's Change (issued in July 2017) at an estimated cost of \$3.1 million. As of October 2020, \$1.7 million had been charged to the project vote (see para. 1.6).*

Automatic cleaning system of UV disinfection facilities not fully functioning

2.11 During CEPT process at the upgraded PPSTW, ferric chloride (being a chemical coagulant for destabilising colloidal particles) is added to the sewage to facilitate faster settlement of suspended solids. After CEPT process, sewage is fed into the UV disinfection facilities for disinfection (Note 19) by the UV lamps. The UV lamps were fitted with a mechanical/chemical cleaning system (comprising mainly sleeve wipers and hydraulic cylinders for moving the wipers) to reduce fouling of the lamps (see Photograph 2), thereby maximising the disinfection performance.

Photograph 2

UV module of disinfection facilities at upgraded PPSTW



Source: DSD records

Note 19: UV irradiation disinfection method was adopted in the upgraded PPSTW in accordance with the policy direction of EPD in April 2007.

Upgrading works of Pillar Point Sewage Treatment Works

2.12 According to Consultant X, in April 2014 (i.e. one month before the commissioning of upgraded PPSTW in May 2014), it found that the automatic cleaning system of the UV disinfection facilities could not perform well in keeping the sleeves of the UV lamps clean, thus causing high *Escherichia coli* (*E. coli*) counts in the treated effluent.

2.13 According to Contractor A:

- (a) the automatic cleaning system of the UV lamps was found blocked by some black oily substances in July 2014;
- (b) the failure of the automatic cleaning system was due to various factors. One of them was the formation of ferric sulphide during CEPT process as ferric chloride was used as the coagulant. Ferric sulphide deposited on the sleeves of the UV lamps affected the functioning of the hydraulic cylinders of automatic cleaning system;
- (c) other factors leading to the failure of the automatic cleaning system were mainly related to the hydraulic cylinders (Note 20);
- (d) in July 2014, it set up a cleaning team (Note 21) to clean the UV sleeves manually in order to restore the performance of the UV disinfection system until a permanent solution was in place. Replacement of hydraulic cylinders were carried out from July to October 2014 as immediate mitigation;
- (e) in order to avoid the formation of ferric sulphide, it was pursuing the use of alum instead of ferric chloride in CEPT process. However, trial use of

Note 20: *The factors included the grease used being too thick and easily contaminated, low hydraulic output from the defective pumps of hydraulic system, insufficient greasing frequency, the cylinder internals being very tight and vulnerable in “tough” conditions, the wiping frequency and duration being too low, and no detection of cylinders failure.*

Note 21: *According to DSD, the cost of the cleaning team was borne by Contractor A (i.e. covered by the fixed fee paid to Contractor A by DSD — see para. 1.13(a)).*

Upgrading works of Pillar Point Sewage Treatment Works

alum was suspended in April 2015 after having been used for two weeks due to the generation of high level of hydrogen sulphide (Note 22); and

- (f) it had carried out various measures by June 2015 for long-term mitigation of the automatic cleaning problem (Note 23).

2.14 In June 2019, DSD commented that intensive manual cleaning of UV sleeves was required and the automatic cleaning system should be enhanced urgently.

2.15 Between January and March 2021, DSD informed Audit that:

- (a) despite the fact that the automatic cleaning system was functioning, in order to maintain the performance of the UV disinfection system, Contractor A continued to carry out additional manual cleaning of the UV sleeves (see para. 2.13(d));
- (b) CEPT process at PPSTW could cater for adoption of both alum and ferric chloride. In view of the influent sewage characteristics, ferric chloride was proposed by Contractor A as the most appropriate chemical coagulant for the process;
- (c) the design and performance of the UV disinfection system, including the automatic cleaning system, had been assessed and tested by Contractor A. The automatic sleeve wiper cleaning system as a supporting system helped reduce the frequency of manual operation and maintenance activities;

Note 22: *Hydrogen sulphide is a toxic gas and can be a health hazard especially in confined space.*

Note 23: *The measures included: (a) cylinders of lighter grease type were selected; (b) maintenance manual was revised and staff training was provided; (c) overall plant process was stabilised; (d) indicator system was implemented to monitor the condition of the automatic cleaning system; and (e) cylinder upgrade kits were developed and tested to reduce the sensitivity of the cylinders to foulant material build-up.*

Upgrading works of Pillar Point Sewage Treatment Works

- (d) a plant-specific preventive maintenance schedule (e.g. manual cleaning of UV sleeves) had been adopted by Contractor A in mitigating potential issues with the automatic cleaning system of UV disinfection facilities; and
- (e) a more advanced inclined UV disinfection system (Note 24) had been adopted in the upgraded San Wai Sewage Treatment Works (see para. 4.4(b)). The performance of the cleaning system of the inclined UV disinfection system had been satisfactory since the testing and commissioning of the upgraded San Wai Sewage Treatment Works in September 2020.

2.16 In Audit's view, regarding the automatic cleaning system of UV disinfection facilities, DSD needs to:

- (a) keep under review the operation of the system at PPSTW and explore further measures for enhancing its effectiveness; and
- (b) continue to monitor the performance of the system at other sewage treatment works.

Note 24: *According to DSD, an inclined UV disinfection system had been used in the upgraded San Wai Sewage Treatment Works in its testing and commissioning stage since September 2020. Its cleaning system is an automatic "chemical-mechanical" cleaning system, with the wipers parked out of the sewage flow in between wiping cycles (resulting in minimal exposure of components in the flow and thus lower level of maintenance). In comparison, the wipers of the horizontal system used at PPSTW are always submerged in and exposed to sewage flow. Besides, at the upgraded San Wai Sewage Treatment Works, the size of the sleeves of the UV lamps is bigger and the power of the wiper system is relatively higher than those of PPSTW's system.*

Need to ensure compliance with contract requirements relating to materials for equipment/facilities

2.17 According to Contract A, the material used in fine screens (Note 25) should follow the requirements stipulated in the General Specification for Electrical and Mechanical Sewerage Facility Installations 2007 Edition (Note 26) of DSD, as follows:

- (a) the screen structure, chain, sprocket wheel, shaft, screenings grid, rake, scraper, chain link plate, all connection/mounting bolts and nuts, roller track, guard, discharge chute should be made of stainless steel or better approved material; and
- (b) material grades should conform to the respective British Standards or equivalent/better national or international standards. Unless otherwise specified, stainless steel of Grade 316 should be regarded as the minimum grades of different materials in terms of corrosion resistance.

Any deviations from the requirements shall be substantiated and submitted for Consultant X's approval.

2.18 Arising from the emergency sewage bypass incident caused by the mechanical failure of all the four fine screens in August 2014 (see para. 3.8(a)), Consultant X conducted an investigation of the incident to ascertain the causes of failure of the fine screens. According to the incident investigation report of Consultant X in November 2014, among others:

Note 25: *Fine screens are used under preliminary treatment to remove particles between 4 millimetres and 25 millimetres from entering the sedimentation system.*

Note 26: *The General Specification for Electrical and Mechanical Sewerage Facility Installations aims to specify the basic requirements of design of electrical and mechanical installations which are essential for application in the sewage and drainage projects including sewage treatment works, sewage and floodwater pumping stations and associated works and facilities managed by DSD. All electrical and mechanical sewerage facility installations shall be carried out to conform to the General Specification unless otherwise amended by the Particular Specification of the works contract.*

Upgrading works of Pillar Point Sewage Treatment Works

- (a) the materials of chain in the fine screens included stainless steel of Grade 304, which was at variance with the contract requirements (i.e. stainless steel of Grade 316 — see para. 2.17(b)). Samples of the chain were sent to an accredited laboratory by Consultant X in September 2014 for testing of material type. The results showed that apart from the lock nuts in the chain, none of the other materials were of stainless steel of Grade 316;
- (b) based on a factory test report from the manufacturer of fine screens submitted by Contractor A to Consultant X during the construction period in September 2012, the entire fine screens (except the motor/gear box, bearings, liners, covers and windows) were made out of stainless steel of Grade 316;
- (c) the manufacturer of the fine screens explained that it did not have relevant design information of the chains, as the chains were not manufactured by it but provided by its chain suppliers;
- (d) there was a durability issue as the main difference between Grade 304 and Grade 316 was corrosion resistance (Note 27); and
- (e) all the chains of the fine screens would be replaced with new ones of materials complying with the contract requirements. In the event, all the chains had been replaced by Contractor A in August 2015 (Note 28).

2.19 In March 2021, DSD informed Audit that in order to ensure that the contractor complied with the contract requirements relating to materials for equipment/facilities, additional measures had been taken by DSD in the upgrading works project of the San Wai Sewage Treatment Works (see para. 4.4(b)). The contractor was required to produce a list showing compliance with respect to the

Note 27: *According to Consultant X, the non-compliance of material for the fine screens was not the cause of failure of fine screens in the sewage bypass incident in August 2014 (see para. 3.9(a) for the causes).*

Note 28: *Contractor A replaced the chains at its sole cost in accordance with contract requirements. According to Consultant X, the new chains were tested on site by a positive material identification tool as an additional reference to ascertain compliance with the specification.*

Upgrading works of Pillar Point Sewage Treatment Works

Employer's Requirements and the requirements specified in the General Specification for Electrical and Mechanical Sewerage Facility Installations relating to equipment/materials.

2.20 In Audit's view, DSD needs to keep under review the effectiveness of the additional measures implemented at other sewage treatment works for ensuring the contractor's compliance with contract requirements relating to materials for equipment/facilities.

Audit recommendations

2.21 **Audit has *recommended* that the Director of Drainage Services should:**

- (a) **regarding the concrete protective coating at PPSTW:**
 - (i) **continue to monitor the performance of the new types of protective coatings for repairing the peeled-off concrete coating; and**
 - (ii) **complete the investigation on the failure of the concrete protective coating as early as practicable with a view to identifying the root cause of the matter and taking necessary follow-up actions;**
- (b) **regarding the automatic cleaning system of UV disinfection facilities:**
 - (i) **keep under review the operation of the system at PPSTW and explore further measures for enhancing its effectiveness; and**
 - (ii) **continue to monitor the performance of the system at other sewage treatment works; and**
- (c) **keep under review the effectiveness of the additional measures implemented at other sewage treatment works for ensuring the contractor's compliance with contract requirements relating to materials for equipment/facilities.**

Response from the Government

2.22 The Director of Drainage Services agrees with the audit recommendations.

Other contract management issues

2.23 Apart from the design and construction of the upgrading works, Audit noted that there was scope for DSD to enhance contract management work in other areas (see paras. 2.24 to 2.34).

Scope for incorporating more reference information into condition survey report for upgrading works

2.24 According to Consultancy X:

- (a) the conditions of facilities at PPSTW before the upgrading works, including the outfall and emergency bypass, should be ascertained in a condition survey conducted by an independent surveyor before issuing tender of Contract A; and
- (b) the survey results should serve as reference information for the tenderers of Contract A to evaluate the operation and necessary modifications or refurbishment costs required.

2.25 Regarding the conditions of the submarine outfall before the upgrading works, it was stipulated in the proposal of condition survey submitted by Consultant X to DSD in May 2007 that:

- (a) water level measurement (Note 29) at the outfall terminal manhole would be carried out by an independent surveyor for testing and monitoring the hydraulic performance of the outfall; and

Note 29: *In general, during the water level measurement, maximum flow would be generated by the outfall pumping station. The incurred water level inside the*

Upgrading works of Pillar Point Sewage Treatment Works

- (b) relevant test results of dye test (Note 30) (for identification of any leakage from the outfall) and underwater inspection (for inspecting the hydraulic performance of the outfall) conducted by DSD around the end of 2006 would be obtained from DSD (Note 31) and incorporated into the condition survey report.

In June 2007, DSD expressed that it had no comment on the proposal of condition survey.

2.26 Audit noted that the condition survey report submitted by Consultant X in June 2008 did not include the results of DSD's dye test and underwater inspection for assessing the conditions of the outfall as stated in Consultant X's proposal (see para. 2.25(b)). In December 2020 and March 2021, DSD informed Audit that:

- (a) it had conducted dye tests for submarine outfall pipes of PPSTW on an annual basis and the records since 2003 were available. For underwater inspections, only the records of inspections conducted since 2011 (in 2011, 2016 and 2020) for submarine outfall pipes of PPSTW were available;
- (b) in view of the availability of technology at the time of condition survey and to avoid disruption to the operation of existing PPSTW, the conditions of the submarine outfall pipes were deduced from the water level measurement conducted at the outfall manhole by the independent surveyor (see para. 2.25(a)); and
- (c) as the management and maintenance of the submarine outfall pipes had always been the responsibility of DSD (instead of Contractor A), and

outfall terminal manhole would be measured to indicate any blockage inside the outfall.

Note 30: *According to DSD, for dye test, coloured dye is introduced at the upstream end of the outfall. Any dye found at locations other than the outlet of the outfall indicates that the outfall may be damaged and needs to be repaired.*

Note 31: *According to Consultant X, dye test results would be obtained from the Sewage Treatment Division 1 of DSD and the underwater inspection results would be obtained from the Buildings/Civil Maintenance Team under the Operations and Maintenance Branch of DSD.*

water level measurement conducted at the outfall manhole (see para. 2.25(a)) could deduce the condition of submarine outfall pipes, the records of dye tests and underwater inspections were not essential design information for the tendering and design of Contract A.

2.27 Given that condition survey results serve as reference information for tenderers to evaluate the operation and necessary modifications required (see para. 2.24(b)), in Audit's view, in administering an upgrading works project in future, there is merit for DSD to consider incorporating more reference information (e.g. underwater inspection results) as proposed by the consultant into the condition survey report. In this connection, as only the records of underwater inspections conducted since 2011 for submarine outfall pipes of PPSTW were available (see para. 2.26(a)), DSD needs to take measures to enhance its record keeping relating to the conditions of facilities of sewage treatment works.

Need to ensure timely completion of defects correction

2.28 According to Contract A, Contractor A should carry out the outstanding works and the relevant works to repair, rectify or make good any defect, imperfection or other fault (for simplicity, the two types of works are hereinafter referred to as defect works) in the construction works at its own cost within the one-year defects correction period which commenced after the substantial completion of construction works in May 2014. Upon the expiry of the defects correction period (i.e. 17 May 2015), all defect works should have been completed to the satisfaction of the Supervising Officer (Note 32).

2.29 Audit noted that, as of mid-September 2015 (i.e. 4 months after the expiry of the defects correction period in May 2015), there were 944 items of defect works not yet completed/rectified by Contractor A. According to DSD, Consultant X had reminded Contractor A to complete the works in the monthly operation meetings (Note 33) since July 2014. In the event, Contractor A completed its

Note 32: *Supervising Officer shall issue a Defects Correction Certificate stating the date on which Contractor A completed its obligation in respect of defects correction.*

Note 33: *Operation meetings were held between DSD, Consultant X (up to August 2016) and Contractor A on a monthly basis.*

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obligation in respect of defects correction on 17 November 2015 (i.e. 6 months after the expiry of the defects correction period).

2.30 According to Consultant X, the reasons leading to the slow progress of completing the defects correction by Contractor A included:

- (a) inadequate resources deployed by Contractor A to achieve the defects correction programme; and
- (b) protracted and ineffective coordination between the construction team and operation team of Contractor A.

2.31 In Audit's view, in implementing a works project in future, DSD needs to take measures to ensure the timely completion of defects correction by the contractor (e.g. closely monitoring of resources deployed by the contractor to the defects correction programme).

Need to ensure timely finalisation of contract accounts

2.32 According to Financial Circular No. 7/2017, for a DBO contract, accounts of the design and build portions of the contract should be finalised as soon as possible and in any event not later than three years after the completion of the design and build portions.

2.33 Audit noted that the account of Contract A in respect of the design and build portions was finalised in November 2017 (i.e. 3.5 years after the substantial completion of the upgrading works of PPSTW in May 2014), exceeding the 3-year time limit specified in the Financial Circular.

2.34 In Audit's view, DSD needs to take measures to ensure the timely finalisation of accounts of the design and build portions of a DBO contract in future.

Audit recommendations

- 2.35 **Audit has *recommended* that the Director of Drainage Services should:**
- (a) **in administering an upgrading works project in future, consider incorporating more reference information (e.g. underwater inspection results) as proposed by the consultant into the condition survey report;**
 - (b) **take measures to enhance the record keeping of relevant test results (e.g. underwater inspection) relating to the conditions of facilities of sewage treatment works;**
 - (c) **in implementing a works project in future, take measures to ensure the timely completion of defects correction by the contractor (e.g. closely monitoring of resources deployed by the contractor to the defects correction programme); and**
 - (d) **take measures to ensure the timely finalisation of accounts of the design and build portions of a DBO contract in future.**

Response from the Government

2.36 The Director of Drainage Services agrees with the audit recommendations.

PART 3: MONITORING OF OPERATION OF UPGRADED PILLAR POINT SEWAGE TREATMENT WORKS

3.1 This PART examines DSD's work in monitoring the operation of upgraded PPSTW, focusing on:

- (a) monitoring of contractor's performance (paras. 3.4 to 3.28); and
- (b) monitoring of operation and maintenance of facilities (paras. 3.29 to 3.46).

3.2 ***Operation of upgraded PPSTW.*** The influent to PPSTW includes sewage collected through public sewerage and septic waste received at the plant. The sewage treatment process of the upgraded PPSTW comprises coarse screening, fine screening, grit removal, CEPT and UV disinfection. After going through the treatment process, the effluent will be discharged through submarine outfall pipes to the Urmston Road watercourse where water is deep and current is strong to facilitate rapid dilution and dispersion of the effluent.

3.3 Under the Water Pollution Control Ordinance (Cap. 358), EPD has issued to DSD a licence for the discharge of effluent from PPSTW (Note 34). According to Contract A, the objectives for operation of the upgraded PPSTW include the following:

Note 34: *According to the Water Pollution Control Ordinance, in application of the Ordinance to the Government, if it appears to the Director of Environmental Protection that any discharge is being, or has been, made in contravention of the Ordinance by any person in the course of carrying out his duties in the service of the Government, the Director will report the matter to the Chief Secretary for Administration if the contravention is not forthwith terminated to the Director's satisfaction. On receipt of the Director of Environmental Protection's report, the Chief Secretary for Administration will enquire into the circumstances and, if the enquiry shows that a contravention is continuing or likely to recur, the Chief Secretary for Administration will ensure that the best practicable steps are taken to terminate the contravention or avoid the recurrence.*

- (a) as the discharge of effluent from the upgraded PPSTW is subject to the conditions stipulated in the discharge licence issued by EPD, a key objective of operation is to achieve full compliance with the discharge licence; and
- (b) it is also the objective of operation to operate and maintain the upgraded PPSTW to upkeep the facilities in the optimum conditions in order to maximise the service life of the facilities.

Monitoring of contractor's performance

3.4 According to Contract A, there are 13 KPIs for measuring the performance of Contractor A in operating the upgraded PPSTW, as follows:

- (a) 7 KPIs on effluent quality (i.e. concentration of total suspended solids, 5-day biochemical oxygen demand (Note 35) and *E. coli* — Note 36), which are related to the discharge standards stipulated in the discharge licence issued by EPD;
- (b) 2 KPIs on environmental monitoring (e.g. unauthorised emergency bypass); and
- (c) 4 KPIs on administration and reporting (e.g. data integrity and incident reporting).

3.5 The monthly payment to Contractor A for operation of the upgraded PPSTW consists of a fixed fee (which covers maintenance, overhauling and operation of the facilities) and a variable fee (which is based on the actual volume of treated effluent) (see para. 1.13). The monthly operation payment to Contractor A

Note 35: *The 5-day biochemical oxygen demand is a measure of the amount of oxygen consumed by microorganisms in the process of decomposing organic matter in 5 days. A high value of the parameter indicates that a water body has been polluted by a large quantity of organic matter.*

Note 36: *Of the 7 KPIs, 3 KPIs are related to total suspended solids, 2 KPIs are related to 5-day biochemical oxygen demand and 2 KPIs are related to *E. coli*.*

Monitoring of operation of upgraded Pillar Point Sewage Treatment Works

is adjusted to reflect the level of performance achieved, which is assessed based on monitoring results on KPIs in the reporting month.

3.6 According to DSD, it may issue warning letters and adverse performance reports (Note 37) to Contractor A for unsatisfactory performance. If Contractor A continually fails to comply with the requirements after warnings, DSD may also take further contractual and legal actions, including taking over the operation of PPSTW and terminating Contractor A's employment.

3.7 Contractor A is required to submit to DSD monthly reports for operation of the upgraded PPSTW. According to DSD, its staff regularly conduct site inspections on plant condition of PPSTW, including conducting joint site walks with Contractor A for identification of under-performance events and inspection of site safety on a monthly basis.

Non-compliances with some KPIs

3.8 Since commissioning of the upgraded PPSTW in May 2014 and up to October 2020, DSD had deducted a total of \$565,920 from payment to Contractor A on 8 occasions involving non-compliances with 5 of the 13 KPIs (see Table 4), as follows:

- (a) *Unauthorised emergency bypass.* Unauthorised emergency bypass involved the highest amount (\$460,980) of payment deduction (accounting for 81% of the total of \$565,920). On 25 August 2014 (three months after the completion of the upgrading works in May 2014), an emergency sewage bypass incident occurred at PPSTW during which untreated sewage was discharged to the Urmston Road watercourse. The incident lasted for about 11 hours with about 95,000 m³ untreated sewage discharged. As a result, 14 beaches in Tuen Mun and Tsuen Wan were closed for about two days. DSD had deducted \$460,980 from the payment to Contractor A for the unauthorised emergency bypass (\$9,220 was also deducted for late reporting of the incident for 51 minutes — see (c) below). DSD had also issued an adverse performance report to

Note 37: *During the contract period, DSD issues quarterly performance reports to Contractor A.*

Contractor A for the unauthorised emergency bypass (see also paras. 3.9 and 3.10 for the causes of and DSD's follow-up actions on the incident);

- (b) ***Consistent minor breaches.*** According to Contract A, Contractor A is required to comply with the general requirements in the contract, such as matters relating to site cleanliness, provision of safety measures during work, and equipment availability and serviceability. DSD will issue an under-performance notice if Contractor A fails to comply with any of the general obligations under the contract, and four or more under-performance notices of non-repeated events issued in the same reporting month will result in payment deduction (Note 38). Audit noted that four to six under-performance notices were issued in September 2014, March 2017 and March 2020 (Note 39), resulting in a total payment deduction of \$57,412;
- (c) ***Incident reporting.*** According to Contract A, Contractor A is required to report serious and emergency incidents (Note 40) to DSD within 15 minutes of the occurrence of the incidents. There was late reporting of the emergency sewage bypass in August 2014 for 51 minutes and the malfunction of outlet penstocks at terminal manhole in March 2017 for about 5 hours, resulting in a total payment deduction of \$17,998;

Note 38: *For a non-repeated event (i.e. a single incident), each under-performance notice will count as 20 under-performance points. For a repeated event (i.e. a repeated failure to comply with the same obligation within a rolling two-month period), each under-performance notice will count as 40 under-performance points. Under-performance points reaching 61 or above will result in payment deduction. Therefore, four or more under-performance notices of non-repeated events issued in the same reporting month will result in payment deduction.*

Note 39: *The details were as follows: (a) in September 2014, there were undue down-time of various equipment items and foam overflow. As a result, four under-performance notices were issued; (b) in March 2017, there was malfunction of outlet penstocks at terminal manhole. As a result, six under-performance notices were issued; and (c) in March 2020, there was septic waste overflow. As a result, four under-performance notices were issued.*

Note 40: *Reportable incidents are serious and emergency incidents that may lead to death, serious injury or damage to properties, or may arouse widespread media attention or public concern.*

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- (d) **High *E. coli* concentration in effluent.** In September 2014, there was an occasion (on 11 September 2014) where *E. coli* concentration in effluent exceeded 300,000 counts per 100 millilitres (Note 41), resulting in payment deduction of \$22,675; and
- (e) **Data integrity.** There were data entry errors in a monthly report submitted by Contractor A, resulting in deduction of \$6,855 from May 2019 payment. The errors were related to entering test results for effluent quality on the wrong dates, resulting in 111 material inconsistencies (Note 42).

Table 4

Non-compliances with KPIs resulting in payment deduction (May 2014 to October 2020)

No.	KPI	Date of non-compliance	Payment deducted (\$)	
1	Unauthorised emergency bypass	August 2014	460,980 (81%)	
2	Consistent minor breaches	September 2014	6,802 (1%)	57,412 (10%)
		March 2017	43,888 (8%)	
		March 2020	6,722 (1%)	
3	Incident reporting	August 2014	9,220 (2%)	17,998 (4%)
		March 2017	8,778 (2%)	
4	High <i>E. coli</i> concentration in effluent	September 2014	22,675 (4%)	

Note 41: According to DSD: (a) under Contract A and the discharge licence, there are two discharge standards for *E. coli* concentration in effluent (see Note 48 to para. 3.17), and their compliances are based on data collected on a monthly or a rolling 12-month basis; (b) the high *E. coli* concentration in effluent (exceeding 300,000 counts per 100 millilitres) on one occasion in September 2014 had not violated the discharge standards; and (c) payment was deducted as a higher standard of supervision on discharge quality was set at the beginning stage of operation.

Note 42: According to Contract A, a material inconsistency refers to: (a) a gross error in a reported result for a parameter set out in the discharge licence; (b) reporting a result referred to in the discharge licence where the work, measurement or sample was not done or taken; or (c) a materially false entry.

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5	Data integrity	May 2019	6,855 (1%)
Total			565,920 (100%)

Source: DSD records

3.9 **Unauthorised emergency bypass.** For the unauthorised emergency bypass which occurred at PPSTW on 25 August 2014 (see para. 3.8(a)), DSD informed LegCo Panel on Environmental Affairs in November 2014 that:

- (a) the direct cause leading to the bypass incident was mechanical failure of all the four fine screens (Note 43) for filtering solid matters. The main contributing factors included:
 - (i) inadequate experience of Contractor A's operation staff. It was of paramount importance to maintain the protection level setting of the electronic overload protection mechanism at a normal level and to carry out regular inspections to ensure its proper operation. However, the staff of Contractor A unduly set the protection level setting of the electronic overload protection mechanism above the normal level; and
 - (ii) lack of adequate awareness of risks by Contractor A. Before the bypass incident on 25 August 2014, there had already been two occasions of fine screen failure on 12 and 21 August 2014 respectively. However, Contractor A had failed to conduct a proper investigation. Besides, the fine screen which failed on 21 August 2014 had not been promptly repaired and, as a result, only three fine screens were available with no standby unit for emergency use when the bypass incident occurred; and
- (b) to prevent recurrence of the incident, a series of follow-up actions had been implemented, including stepping up inspection of fine screens,

Note 43: *There are four fine screens installed at PPSTW, with one serving as a standby unit and the other three as duty units. The rakes of each fine screen run on two guiding chains respectively located at the two sides of each screen. The chains consist of a series of rollers, link plates and pins which are all held together by connecting clips at the sides of the chains. An electronic overload protection mechanism is also installed at each fine screen to protect it from damage due to overloading. On 25 August 2014, one fine screen was under repair, and the connecting clips of the remaining three fine screens were dislodged, which eventually led to the falling apart of the chains and failure of the fine screens.*

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replacing the chains of all four fine screens, reinforcing the connecting clips of the chains and the chain tensioning devices, and enhancing training of operation staff.

3.10 Audit noted that, according to DSD's monthly site inspections of PPSTW during December 2019 to June 2020, DSD found that the protection level of the electronic overload protection mechanism for one fine screen was set above the normal level in four months (i.e. December 2019 and February, May and June 2020). In March 2021, DSD informed Audit that:

- (a) on each occasion, DSD verbally requested Contractor A to resume the setting to the normal level and Contractor A then resumed the setting to the normal level; and
- (b) standby unit was available during the above-mentioned period and the condition was kept under monitoring.

3.11 According to DSD, Contractor A's overall performance was considered satisfactory in general. In Audit's view, the payment deductions relating to non-compliances with five KPIs on various occasions (see para. 3.8) indicate scope for improvement in Contractor A's performance. DSD needs to continue to closely monitor the performance of the contractor in operating PPSTW including compliances with KPIs.

Scope for improving demerit point mechanism

3.12 According to Contract A, demerit points are assigned for non-compliances with KPIs, which provide the basis for payment deduction from Contractor A. The number of demerit points assigned to each KPI is capped in each month. For all the 13 KPIs, the total number of points allocated is 10,000 points and the total number of demerit points for non-compliances is capped at 3,200 points. The maximum payment adjustment is a deduction of 32% of the monthly payment for the operation.

3.13 Audit noted scope for improving the demerit point mechanism of Contract A, as follows:

- (a) ***Maximum payment deduction.*** For Contract A, the total payment deduction for non-compliances with KPIs is capped at 32% of the monthly operation payment. Audit noted that subsequent to the award of Contract A in July 2010, another DSD's DBO contract of the San Wai Sewage Treatment Works was awarded in May 2016 (see para. 4.4(b)), with the maximum payment deduction being 40% of the monthly operation payment, which is 8 percentage points higher than that for PPSTW;

- (b) ***Unauthorised emergency bypass.*** For unauthorised emergency bypass, the demerit points are based on the number of events. The number of demerit points for each event is 1,000 points and the total number of demerit points is capped at 1,000 points in each month. Hence, deduction can only be made for one event in each month at the maximum. Also, the mechanism does not take account of the gravity of the event (i.e. the volume or the time duration of untreated sewage discharged and seriousness of the impact). In August 2014, there was an unauthorised emergency bypass event which lasted for about 11 hours with about 95,000 m³ untreated sewage discharged. As a result, 14 beaches were closed for about two days. In accordance with the mechanism, 1,000 demerit points were assigned (i.e. 10% of monthly operation payment was deducted). Audit noted that subsequent to the unauthorised emergency bypass event in August 2014, DBO contract of the San Wai Sewage Treatment Works was awarded in May 2016, under which the assignment of demerit points to unauthorised emergency bypass in a month is linked to the duration of the bypass (Note 44); and

- (c) ***Incident reporting.*** For incident reporting, the number of demerit points for late reporting of serious and emergency incidents are 3 points per five minutes late, subject to a maximum of 20 points in each month. Therefore, late reporting for 35 minutes or more is assigned 20 demerit points, regardless of the actual period of delay. In August 2014 and March 2017, there were two late incident reporting events for 51 minutes and about 5 hours respectively. Notwithstanding the long delays in

Note 44: *The number of demerit points assigned to unauthorised emergency bypass in a month are as follows: (a) 1,000 points if the duration is less than 1 hour; (b) 1,500 points for 1 to less than 3 hours; (c) 2,000 points for 3 to less than 6 hours; and (d) 3,000 points for 6 hours or more.*

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incident reporting, only 20 demerit points were assigned on each occasion.

In this connection, according to a review of Consultant X in 2017 concerning Contract A (Note 45), while operation mechanism of KPI was considered effective, the potential adjustment in monthly operation payment could be reinforced to provide adequate driving force on the contractor to fulfil the more important KPIs which included compliance with the discharge licence and unauthorised sewage bypass.

3.14 In response to Audit's enquiry about the scope for reviewing the demerit point mechanism of Contract A, in March 2021, DSD informed Audit that:

- (a) any change in the demerit point mechanism would be subject to negotiation and agreement with Contractor A, and might need to be executed under supplementary agreement with additional financial implications. DSD considered it not advisable to conduct the review at this stage; and
- (b) the review could be conducted at a later stage, such as when reviewing the further five-year extension (i.e. from May 2024 to May 2029) under Contract A (see para. 1.12). According to Contract A, DSD would be required to give Contractor A at least a 12-month notice (i.e. before May 2023) in writing to exercise the right to extend the operation period. Therefore, DSD aimed to start reviewing the demerit point mechanism in mid-2022.

3.15 In Audit's view, DSD needs to review the demerit point mechanism (including the maximum payment deduction level for non-compliances with KPIs and the assignment of demerit points for unauthorised emergency bypass and incident reporting) of the PPSTW contract as scheduled and complete it timely.

Note 45: *In 2017, as required under Consultancy X, Consultant X submitted to DSD a review report on performance measurement and control mechanism under Contract A relating to operation and maintenance of PPSTW.*

***High E. coli concentration found in some effluent samples
of DSD's surprise checks***

3.16 According to Contract A, there are 7 KPIs on effluent quality requirements, and their compliances are based on monthly data collected at the sampling frequencies specified in the contract (Note 46). For example, Contractor A is required to conduct sampling of the effluent to check concentration of *E. coli* seven times a week (Note 47). According to DSD:

- (a) making reference to EPD's surprise checks to other sewage treatment works, DSD has developed a surprise checking mechanism for better monitoring of Contractor A's performance. The surprise checking mechanism for effluent quality is an established practice, and there have been follow-up actions and regular reporting at monthly meetings with Contractor A on high *E. coli* concentration found in effluent;
- (b) DSD's surprise checks serve as quality assurance and aim to provide additional checking on effluent quality at different time slots; and
- (c) samples collected by Contractor A and DSD are sent to accredited laboratories for testing of effluent quality.

3.17 DSD conducted surprise checks for *E. coli* concentration (Note 48) in effluent of PPSTW on 161 days from April 2019 to October 2020. Of DSD's

Note 46: *According to DSD, since commissioning of the upgraded PPSTW in May 2014 and up to October 2020: (a) there had been no non-compliance with the discharge standards under the discharge licence and Contract A; and (b) DSD had not received any notice from EPD on non-compliances with the discharge standards.*

Note 47: *According to DSD, Contractor A conducts sampling between 9 am and 9:30 am every day.*

Note 48: *According to Contract A and the discharge licence, there are two discharge standards for concentration of E. coli in effluent, as follows: (a) the monthly geometric mean concentration should not exceed 20,000 counts per 100 millilitres; and (b) the 95 percentile concentration (based on a rolling 12-month data) should not exceed 300,000 counts per 100 millilitres. According to Contractor A's test results on samples for effluent quality from April 2019 to October 2020, the concentration of E. coli in effluent met both discharge standards.*

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161 days' surprise checks, DSD considered that there were 23 (14%) days with high *E. coli* concentration (i.e. exceeding 300,000 counts per 100 millilitres — Note 49) in effluent and requested Contractor A to investigate the reasons for high *E. coli* concentration. According to Contractor A's investigation:

- (a) for 11 days, the unsatisfactory level of *E. coli* concentration was due to equipment failure or poor disinfection efficiency of UV disinfection facilities during DSD's sampling;
- (b) for 10 days, the reasons were unknown as the UV disinfection system was operating normally during DSD's sampling; and
- (c) for 2 days, the unsatisfactory level of *E. coli* concentration might be due to sampling contamination.

3.18 Regarding DSD's surprise checks for effluent quality at PPSTW, Audit noted that:

- (a) for the 23 days with high *E. coli* concentration in effluent found by DSD's surprise checks from April 2019 to October 2020 (see para. 3.17), the time taken for completion of the investigations by Contractor A (counting from DSD's surprise checking dates) ranged from 9 days to about 20 months (averaging about 3.5 months). In particular, for 3 days, the investigation results were only available after one year;
- (b) the number of surprise checks conducted for concentration of *E. coli* in effluent ranged from 6 to 12 days (averaging 9 days) in each month from April 2019 to October 2020 excluding April and May 2020 (Note 50);

Note 49: *For the 23 days, the *E. coli* concentration in effluent ranged from 370,000 to 13,000,000 counts per 100 millilitres (averaging about 1,488,000 counts per 100 millilitres).*

Note 50: *According to DSD, no surprise check was conducted in April and May 2020 due to the outbreak of COVID-19 and implementation of special work arrangements. Besides, during the same 19-month period from April 2019 to October 2020, surprise checks on concentration of total suspended solids and that of 5-day biochemical oxygen demand in effluent had been conducted once in each of 13 months and no surprise check had been conducted in the remaining 6 months.*

- (c) while there was an established practice for the surprise checking mechanism for effluent quality (see para. 3.16(a)), DSD had not promulgated guidelines (covering frequency and timing of surprise checks, and follow-up actions needed) in this regard; and
- (d) DSD had not regularly compiled management information (e.g. highlights or summaries) on results of surprise checks for effluent quality for monitoring by its senior management.

3.19 In Audit's view, DSD needs to:

- (a) take timely actions to investigate the reasons for high *E. coli* concentration in effluent found by its surprise checks at PPSTW and address the issues identified (e.g. equipment failure or poor disinfection efficiency of UV disinfection facilities and possible sample contamination — see para. 3.17);
- (b) formalise the existing practice and promulgate guidelines on its surprise checks conducted on effluent quality of PPSTW (covering frequency and timing of surprise checks, and follow-up actions needed); and
- (c) regularly compile management information (e.g. highlights or summaries) on test results of its surprise checks at PPSTW for monitoring by its senior management.

Scope for enhancing occupational safety at PPSTW

3.20 According to Contract A, Contractor A is required to ensure that all operations are conducted in such a manner so as to eliminate the risks to persons, property and equipment. Contractor A should submit to DSD a safety plan which includes details such as safety policy, safety and health training and personal protective equipment.

3.21 Audit noted that since the commencement of the operation of the upgraded PPSTW in May 2014, there had been various instances involving occupational safety at PPSTW, including a fatal accident (see paras. 3.22 and 3.23) and other incidents related to occupational safety (see para. 3.24).

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3.22 **Fatal accident.** A fatal accident occurred on 10 October 2014, with a worker of Contractor A suspected to have fallen into a terminal manhole when he shut down a penstock and his body was found one month later. Subsequent to the fatal accident, DSD had engaged a consultant to review the safety and health system of the works. According to DSD, improvement measures had been taken, including erection of guard-rails along the edge of the terminal manhole, installing safety harness system at the terminal manhole and remote closed-circuit television (CCTV) cameras for surveillance, and restructuring and updating the content and order of the safety plan. The Labour Department (LD) prosecuted Contractor A for violation of the Occupational Safety and Health Ordinance (Cap. 509) for the fatal accident and Contractor A was convicted and fined a total of \$145,000 in September 2015 (Note 51). However, Audit noted that DSD had not taken adequate and timely follow-up actions on Contractor A with regard to the fatal accident. It was only in March 2021 that DSD sent a written request to LD asking for information on the cause of the accident and issued an under-performance notice to Contractor A for poor provision of safety measures during work.

3.23 In March 2021, LD and DSD informed Audit that:

- (a) **LD.** LD received a written request from DSD on 1 March 2021 asking for information on the cause of the fatal accident. LD provided the information to DSD (Note 52) on 12 March 2021 with due consideration

Note 51: *According to DSD, it requested a case update from the Hong Kong Police Force in August 2017 and noted the Coroner's decision that no death inquest would be required.*

Note 52: *According to LD, the direct cause of the accident was believed to be that the worker had somehow fallen into the terminal manhole through an unfenced opening where the metal cover had been removed. The indirect causes included the following: (a) no risk assessment had been done before the accident; (b) there was deficiency in the system of work, particularly its failure in ensuring that employees (including the worker who had fallen into the manhole) working on the top of the terminal manhole could work safely without falling hazard; (c) the permit-to-work system in place could not cater for different situations of work on the top of the manhole; and (d) the metal covers of the openings of the manhole were not securely key-locked at all times.*

of the restrictions under the Occupational Safety and Health Ordinance and the Personal Data (Privacy) Ordinance (Cap. 486) (Note 53); and

- (b) **DSD.** Based on the conviction under the Occupational Safety and Health Ordinance, DSD issued an under-performance notice to Contractor A on 9 March 2021 for poor provision of safety measures during work with regard to the fatal accident (see para. 3.22). Following receipt of further information about the cause of accident from LD on 12 March 2021, DSD would also reflect the issue in the corresponding performance report of Contractor A based on the conviction for failing to provide and maintain a system of work to ensure safety and health at work.

3.24 ***Other incidents related to occupational safety.*** Since the commencement of the operation of the upgraded PPSTW in May 2014, there had been other incidents related to occupational safety at PPSTW, including the following:

- (a) ***Incidents involving injuries.*** DSD had issued under-performance notices to Contractor A for two incidents involving injuries, as follows:
 - (i) in October 2015, a worker of Contractor A lost balance and dropped a metal cover to his co-worker's finger and caused minor injury. Contractor A informed DSD of the incident one month later. DSD issued two under-performance notices to Contractor A for inadequate provision of safety measures and late reporting of the incident; and
 - (ii) in April 2018, a worker of Contractor A slipped and fell down from a concrete block of 60 centimetres height and received a minor surgery. Contractor A informed DSD of the incident 50

Note 53: *According to LD: (a) as the accident investigation reports compiled by LD officers contain information relating to working processes and personal data, LD is precluded from releasing the reports to third parties (including other government departments) under the Occupational Safety and Health Ordinance and the Personal Data (Privacy) Ordinance; and (b) LD will from time to time issue press releases containing conviction results related to fatal work accidents on the respective dates of judgements. For the fatal accident in 2014 (see para. 3.22), a press release was issued in September 2015 providing a brief account of the case and the conviction results.*

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hours later. DSD had issued an under-performance notice to Contractor A for inadequate safety awareness and/or working environment and late reporting of the incident;

- (b) ***Occupational safety at confined space.*** According to DSD guidelines, working in confined space is an extremely high-risk activity and safety supervision of confined space work is necessary in order to prevent gassing and drowning accidents. A contractor is required to ensure that no worker enters a confined space unless a certificate has been issued (Note 54). Audit noted the following instances involving occupational safety at confined space at PPSTW:
- (i) in September 2015, a worker of Contractor A was found smoking inside a confined space. DSD had issued an under-performance notice to Contractor A; and
 - (ii) in September 2017, January 2018 and September 2020, there were unauthorised entries of workers of Contractor A into confined space without proper certificates. DSD had issued warning letters to Contractor A for the incidents (Note 55); and
- (c) ***Site safety inspections.*** According to DSD, its staff conduct joint site walks with Contractor A for site safety inspections of PPSTW on a monthly basis. According to the inspection records for September 2020, DSD identified 7 irregularities. Audit noted that 3 (43%) of the 7 irregularities had already been identified by DSD more than one year and up to two years (averaging 21 months) ago but were still not yet fully

Note 54: *According to Factories and Industrial Undertakings (Confined Spaces) Regulation (Cap. 59AE), a contractor shall ensure that no worker enters a confined space for the first time until the contractor has issued a certificate stating that all necessary safety precautions in relation to the hazards identified in the risk assessment report have been taken and the period during which workers may remain safely in the confined space. When work is being carried out in a confined space, a contractor shall ensure that the risk assessment report and the related certificate are displayed in a conspicuous place at the entrance of the confined space, and the safety precautions undertaken continue to be effective.*

Note 55: *According to DSD, for the case in September 2020, the performance was also reflected in the quarterly performance report of Contractor A for the period from September to November 2020 (e.g. safety aspect was rated as “poor”).*

rectified, including faulty signals in a fire services panel and water seepage at a pump inlet.

3.25 Regarding occupational safety at PPSTW, DSD informed Audit in March 2021 that:

- (a) DSD monitored the performance of Contractor A in occupational safety through regular and ad-hoc site inspections. The performance of Contractor A was regulated through advice, warning and performance reports; and
- (b) DSD had issued three Employer's Changes (at a total estimated cost of \$2.1 million) to Contractor A for enhancing the safety of working environment (e.g. provision of additional CCTV systems at confined space) at PPSTW in 2016, 2019 and 2020.

3.26 In Audit's view, DSD needs to take adequate and timely follow-up actions on incidents relating to occupational safety at PPSTW. DSD also needs to make continued efforts to enhance the occupational safety at PPSTW, including:

- (a) keeping under review and improving the safety of facilities as needed;
- (b) closely monitoring the contractor's measures in safeguarding occupational safety and promoting safety awareness; and
- (c) stepping up actions to ensure that the irregularities identified in site safety inspections are timely rectified.

Audit recommendations

3.27 **Audit has *recommended* that the Director of Drainage Services should:**

- (a) **continue to closely monitor the performance of the contractor in operating PPSTW including compliances with KPIs;**
- (b) **review the demerit point mechanism (including the maximum payment deduction level for non-compliances with KPIs and the**

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- assignment of demerit points for unauthorised emergency bypass and incident reporting) of the PPSTW contract as scheduled and complete it timely;
- (c) take timely actions to investigate the reasons for high *E. coli* concentration in effluent found by DSD's surprise checks at PPSTW and address the issues identified (e.g. equipment failure or poor disinfection efficiency of UV disinfection facilities and possible sample contamination);
 - (d) formalise the existing practice and promulgate guidelines on DSD's surprise checks conducted on effluent quality of PPSTW (covering frequency and timing of surprise checks, and follow-up actions needed);
 - (e) regularly compile management information (e.g. highlights or summaries) on test results of DSD's surprise checks at PPSTW for monitoring by DSD's senior management;
 - (f) take adequate and timely follow-up actions on incidents relating to occupational safety at PPSTW; and
 - (g) make continued efforts to enhance the occupational safety at PPSTW, including:
 - (i) keeping under review and improving the safety of facilities as needed;
 - (ii) closely monitoring the contractor's measures in safeguarding occupational safety and promoting safety awareness; and
 - (iii) stepping up actions to ensure that the irregularities identified in site safety inspections are timely rectified.

Response from the Government

3.28 The Director of Drainage Services agrees with the audit recommendations.

Monitoring of operation and maintenance of facilities

3.29 According to Contract A, one of the objectives of operation of PPSTW is to operate and maintain the works to upkeep the facilities in the optimum conditions in order to maximise the service life of the facilities (see para. 3.3(b)). Hence it is necessary to devise a comprehensive maintenance schedule over the life of the asset. Preventive maintenance should be carried out to avoid inducing undue wear and tear to the equipment.

3.30 Contractor A is required under Contract A to maintain the following computer systems for managing the operation and maintenance of facilities at PPSTW:

- (a) ***Supervisory Control and Data Acquisition System (SCADA System).*** SCADA System is for on-line monitoring and controlling of various electrical and mechanical equipment and systems of PPSTW; and
- (b) ***Computerised Maintenance Management System (CMM System).*** CMM System is to facilitate management of systems and equipment, daily operation work, corrective and preventive maintenance of PPSTW. All maintenance and asset related information is recorded, analysed and stored in the System.

3.31 According to DSD:

- (a) SCADA System and CMM System are managing tools used by Contractor A and DSD is not involved in running the systems;
- (b) for DSD's information and regular monitoring purposes, Contractor A submits the maintenance records generated from CMM System via monthly operation reports, with major preventive maintenance activities shortlisted in the reports. Besides, any critical/sensitive activities will be highlighted for discussion or review in the monthly operation meetings and recorded in minutes of the meetings;
- (c) for CMM System, DSD can make use of the records to trace the maintenance history of particular equipment in order to have analysis or

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further investigation/discussion/evaluation via ad-hoc communication, weekly inspection, monthly operation meeting or quarterly contractor performance reporting; and

- (d) for SCADA System, DSD can monitor the real-time operation data and retrieve historical data from time to time if necessary. As routine checking during weekly inspection, DSD can retrieve and review the plant performance information via SCADA System data.

Inconsistencies and loss of data in SCADA System

3.32 SCADA System is a real-time system used for remote control and monitoring of the operation of PPSTW by Contractor A, which is linked to the field equipment. According to DSD, there were inconsistencies and loss of data in SCADA System, as follows:

- (a) ***Inconsistencies in some on-site readings and SCADA System.*** DSD noted that there were inconsistencies in some readings taken on site and those shown in SCADA System. For example:
 - (i) the readings of hydrogen sulphide (see Note 22 to para. 2.13(e)) at the outlets of deodorisation units of PPSTW were shown as “zero” all the time in SCADA System, which differed from the on-site values shown in the local control panel. DSD’s checking found that hydrogen sulphide reading had been overwritten as “zero” in SCADA System; and
 - (ii) the alarm settings (e.g. high and low alarm levels) for the sensors measuring the hydrogen sulphide outlet concentration level were overridden in SCADA System.

According to DSD, the problem of data inconsistencies had been rectified in September 2020 (i.e. about 1.5 years after identification of the problem in June 2019); and

- (b) ***Loss of data among terminals of SCADA System.*** The master control terminal of SCADA System is located in the control room at PPSTW, and two terminals receiving the same signals are located in DSD’s two offices

at PPSTW and the Sham Tseng Sewage Treatment Works (Note 56) respectively. Since commencement of operation of PPSTW in May 2014, there had been loss of data in the terminals in the two DSD's offices. For example, some signals (such as signals for UV system) were lost in the two terminals in DSD's two offices and some historical data could not be extracted from DSD's terminals. As of February 2021, the problem was not yet fully resolved.

3.33 In September 2020, DSD issued a warning letter to Contractor A stating that it had already issued at least six letters about data inconsistencies and data loss in SCADA System since October 2018 but there was still no significant improvement, and inaccurate data in SCADA System would directly tamper DSD's monitoring of site operation. Audit noted that it took about 1.5 years to resolve the problem of data inconsistencies (see para. 3.32(a)) and the data loss problem was not yet fully resolved as of February 2021 (see para. 3.32(b)). In Audit's view, DSD needs to continue to monitor SCADA System and take timely follow-up actions in addressing the problems identified (e.g. data loss problem in the terminals of the two DSD's offices).

Scope for enhancing the monitoring of preventive maintenance

3.34 According to Contract A, Contractor A should uphold the condition of the facilities of PPSTW and carry out routine inspection and maintenance (i.e. preventive maintenance) according to the schedules as specified in the contract as a minimum. In general, the minimum maintenance frequency required for most of the equipment ranges from weekly to annually.

3.35 CMM System maintains the maintenance records for facilities at PPSTW. According to Contract A, CMM System should provide planned preventive maintenance function, trigger preventive maintenance tasks based on user defined frequency criterion and collect statistics for each equipment in the database for analytical use. According to CMM System records, there were 16,952 preventive maintenance tasks (involving 432 equipment items) completed during the period of some 5.5 years from January 2015 to October 2020.

Note 56: *According to DSD, its regional control centre for Sham Tseng and Tuen Mun region is located at the Sham Tseng Sewage Treatment Works.*

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3.36 Based on CMM System records (Note 57), Audit selected 20 equipment items for which preventive maintenance was carried out once during the period from January 2015 to October 2020. Audit noted that their maintenance frequency fell short of the required minimum frequency of once every six months or every year under Contract A.

3.37 In March 2021, DSD informed Audit that:

- (a) preventive maintenance for equipment and facilities at PPSTW was not carried out according to the specified schedules in Contract A. From the experience gained in the operation phase and for effective resources allocation, Contractor A had fine-tuned the preventive maintenance schedules to meet the operational needs of the plant; and
- (b) some maintenance records were not included in CMM System and were maintained in other systems (e.g. monthly reports, weekly reports and logbook).

3.38 According to Contract A, it is necessary to devise a comprehensive maintenance schedule over the life of the asset, and preventive maintenance should be carried out to avoid inducing undue wear and tear to the equipment (see para. 3.29). Audit noted that:

- (a) the frequency of preventive maintenance for equipment and facilities at PPSTW deviated from the specified schedules in Contract A as Contractor A had fine-tuned the schedules (see para. 3.37(a)). As far as could be ascertained, there was no readily available information on the revisions made to the preventive maintenance schedules in Contract A; and
- (b) some maintenance records were not included in CMM System and were maintained in manual records (see para. 3.37(b)).

Note 57: *CMM System had not recorded the minimum maintenance frequency required for each equipment. Therefore, Audit could not readily ascertain whether the preventive maintenance had been carried out according to the required frequency for each equipment.*

3.39 In Audit's view, DSD needs to enhance the monitoring of the contractor's preventive maintenance of equipment and facilities at PPSTW, including:

- (a) enhancing the documentation of the revisions made to the preventive maintenance schedules in the PPSTW contract;
- (b) taking measures to ensure that preventive maintenance is carried out according to the required frequency; and
- (c) exploring the feasibility of using CMM System to capture all maintenance records (see para. 3.38(b)).

Need to ensure the timely completion and recording of maintenance tasks and compile regular management information on maintenance

3.40 According to DSD, the details of maintenance are required to be recorded in CMM System, including the progress (e.g. task creation date, task priority (Note 58), planned start date, target and actual completion dates). According to CMM System records, there were 7,572 maintenance tasks completed between January 2019 and October 2020 (Note 59). Based on available information in CMM System (see para. 3.37(b)), Audit noted the following issues:

- (a) ***Some maintenance tasks completed later than the target time.*** Of the 7,572 maintenance tasks completed between January 2019 and October 2020, 7,313 (97%) were preventive maintenance and 259 (3%) were corrective maintenance. The target time for completion of the maintenance ranged from immediately to one month. Audit noted that:

Note 58: *According to CMM System records, there are four task priorities, i.e. tasks to be completed immediately, within 8 hours, 7 days or 1 month from the planned start date of the tasks.*

Note 59: *According to DSD, based on CMM System records, there were 67 maintenance tasks not yet completed as of October 2020. In February 2021, DSD informed Audit that all these maintenance tasks had been completed between January 2019 and October 2020 but the related CMM System records had not been updated (see also para. 3.40(b) for Audit's findings on recording of maintenance information in CMM System).*

Monitoring of operation of upgraded Pillar Point Sewage Treatment Works

- (i) of the 7,313 preventive maintenance tasks completed, there was delay in completion for 2,108 (29%) tasks, ranging from 1 day to 1 year (averaging 12 days) after target completion dates; and
- (ii) of the 259 corrective maintenance tasks completed, there was delay in completion for one task for about 5 months.

In Audit's view, DSD needs to strengthen measures to ensure that the maintenance for equipment and facilities at PPSTW is timely completed;

- (b) ***Some maintenance tasks not timely recorded in CMM System.*** Of the 7,572 maintenance tasks completed between January 2019 and October 2020, the completion dates of 1,559 (21%) tasks were earlier than the task creation dates in CMM System (i.e. they were recorded in CMM System after the tasks had been completed for 1 day to 4.5 months, averaging 12 days). In Audit's view, DSD needs to take measures to ensure that maintenance information for equipment and facilities at PPSTW is timely recorded in CMM System; and
- (c) ***Need to regularly compile management information on maintenance.*** Audit noted that DSD had not regularly compiled management information (e.g. highlights or summaries) on maintenance carried out at PPSTW, including:
 - (i) frequency of preventive maintenance carried out and compliance with the prevailing maintenance schedules; and
 - (ii) equipment requiring frequent corrective maintenance.

In Audit's view, DSD needs to regularly compile management information (e.g. highlights or summaries) on maintenance carried out at PPSTW for monitoring purpose.

***Need to ensure timely rectification of defects identified in
plant performance audit and structural condition survey***

3.41 According to Contract A, Contractor A is required to, in the 5th, 9th and 14th years after commencement of operation of the upgraded PPSTW, appoint:

- (a) an independent professional engineer to carry out a plant performance audit, including assessment on the general operation and maintenance condition of the plant and equipment; and
- (b) an independent structural engineer to carry out a structural condition survey of the buildings and structures, including assessment on the physical condition of the key structural components at the plant.

3.42 A plant performance audit was completed in May 2019 (i.e. the 5th year after commencement of operation of the upgraded PPSTW in May 2014), which identified a total of 25 items requiring rectification works to be completed within one month to six months, as follows:

- (a) 4 items requiring urgent rectification to be completed within one month. Examples included replacing malfunctioned fire equipment and repairing the weight-bridge cum car-plate recognition system;
- (b) 15 items requiring moderate rectification to be completed within three months. Examples included rectifying inconsistencies in the hydrogen sulphide readings between SCADA System and local control panel (see para. 3.32(a)(i)), and checking equipment with abnormal noise or vibration; and
- (c) 6 items requiring minor rectification to be completed within six months. Examples included repairing CCTV system and damaged penstock.

3.43 A structural condition survey commenced in May 2019 and was completed in April 2020 (with the report submitted to DSD in May 2020). According to the structural condition survey, while there were no serious defects or signs of structural distress or instability, 1,290 defects were observed along both internal and external structural elements of the buildings and structures. According to Contract A, for defects identified in a structural condition survey, all the

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rectification works should be completed within 60 days after issue of the report or other period as agreed by DSD (Note 60).

3.44 Audit noted that there was scope for improvement in the rectification works, as follows:

- (a) ***Defects not timely rectified.*** According to DSD, Contractor A reported that the rectification works for all defects identified in the structural condition survey had been completed by January 2021, i.e. about eight months after issue of the report in May 2020 and exceeding the 60-day time limit specified in Contract A (see para. 3.43). In March 2021, DSD informed Audit that the progress of implementing the rectification works was monitored and recorded in monthly operation meetings with Contractor A. In Audit's view, DSD needs to strengthen actions to ensure that defects identified in a structural condition survey of PPSTW are timely rectified; and
- (b) ***Need to keep track of progress of rectification works.*** According to DSD:
 - (i) Contractor A reported that the rectification works for the items identified in the plant performance audit and the defects identified in the structural condition survey had been completed by October 2019 and January 2021 respectively; and
 - (ii) the progress of implementing the rectification works was monitored and recorded in monthly operation meetings with Contractor A.

Audit noted that the time limits for completing the rectification works for different items/defects varied (e.g. ranging from one month to six months for those identified in the plant performance audit — see para. 3.42). However, there was no documentary evidence showing that DSD had kept track of the progress of rectification works against the time limits for these items/defects. In Audit's view, there is merit for DSD to keep track

Note 60: *There was no documentation showing that DSD had agreed to extend the rectification period.*

of the progress of rectification works against the time limits for different items/defects (e.g. requesting Contractor A to provide regular reports).

Audit recommendations

3.45 **Audit has *recommended* that the Director of Drainage Services should:**

- (a) **continue to monitor SCADA System and take timely follow-up actions in addressing the problems identified (e.g. data loss problem in the terminals of the two DSD's offices);**
- (b) **enhance the monitoring of the contractor's preventive maintenance of equipment and facilities at PPSTW, including:**
 - (i) **enhancing the documentation of the revisions made to the preventive maintenance schedules in the PPSTW contract;**
 - (ii) **taking measures to ensure that preventive maintenance is carried out according to the required frequency; and**
 - (iii) **exploring the feasibility of using CMM System to capture all maintenance records;**
- (c) **strengthen measures to ensure that the maintenance for equipment and facilities at PPSTW is timely completed;**
- (d) **take measures to ensure that maintenance information for equipment and facilities at PPSTW is timely recorded in CMM System;**
- (e) **regularly compile management information (e.g. highlights or summaries) on maintenance carried out at PPSTW for monitoring purpose;**
- (f) **strengthen actions to ensure that defects identified in a structural condition survey of PPSTW are timely rectified; and**

Monitoring of operation of upgraded Pillar Point Sewage Treatment Works

- (g) **regarding items/defects identified in a plant performance audit and a structural condition survey of PPSTW, keep track of the progress of rectification works against the time limits for different items/defects.**

Response from the Government

3.46 The Director of Drainage Services agrees with the audit recommendations.

PART 4: ADMINISTRATION OF DESIGN-BUILD-OPERATE CONTRACT ARRANGEMENT

4.1 This PART examines DSD's administration of DBO contract arrangement for upgrading and operation of PPSTW and the experience gained (paras. 4.2 to 4.17).

Adopting the design-build-operate contract arrangement

4.2 According to Environment, Transport and Works Bureau Technical Circular (Works) No. 32/2004 (Note 61), DBO approach is one of the procurement approaches (Note 62) that:

- (a) bundles the design, construction and operation responsibilities in one contract;
- (b) addresses the risk that the contractor may be tempted to "design down" (Note 63) to suit the tender price. In areas where advanced technology is required, it is essential for the technology chosen for the design to provide best value in procurement terms, and for this to be demonstrated by its life-cycle costs;
- (c) any under-estimation of operating costs would be a contractor's risk; and

Note 61: *The Circular aims to facilitate user departments in adopting a more rational and systematic approach in selecting the procurement approach and associated project delivery techniques for public works projects.*

Note 62: *Procurement approaches are broadly classified into four generic categories in accordance with the contractor's involvement in the key stages of the overall development process, namely: (a) Designer Led; (b) Design and Construct; (c) Design Construct and Operate; and (d) Finance Design Construct and Operate. DBO approach is one of the sub-categories of the Design Construct and Operate category.*

Note 63: *For example, the contractor may compromise on the quality of design to save costs.*

Administration of design-build-operate contract arrangement

- (d) operator cannot attribute any problem that it encounters to the previously carried out design and construction.

4.3 The upgrading and operation of PPSTW was the first sewage treatment works project of DSD adopting the DBO contract arrangement. According to DSD, it brought in DBO arrangement for procuring sewage treatment facilities in view of its potential merits, as follows:

- (a) encouraging the introduction of overseas innovative technologies, experience and management techniques;
- (b) larger scope for optimisation resulting in lower life-cycle cost;
- (c) minimisation in government staff resources; and
- (d) clearer accountability of responsibilities among design, construction and operation phases as only one party is responsible for the whole DBO process.

4.4 After the award of the first DBO contract (i.e. Contract A) in July 2010, two more DBO contracts had been awarded by DSD for other sewage treatment works, as follows:

- (a) under the upgrading of the Stonecutters Island Sewage Treatment Works, a DBO contract for the sludge handling and disposal facilities was awarded in June 2013 at a contract sum of \$2,081 million (Note 64). The sludge handling and disposal facilities commenced operation in March 2015; and
- (b) a DBO contract for the upgrading and operation of the San Wai Sewage Treatment Works was awarded in May 2016 at a contract sum of \$3,142 million. The upgraded sewage treatment works commenced operation in March 2021.

Note 64: *According to DSD, the design and construction portions commenced in July 2013 and were completed in March 2015. As of January 2021, it was under the operation stage.*

Drawing on the experience gained

4.5 According to DSD, the experience gained during the implementation of Contract A (being the first DBO contract of DSD for upgrading PPSTW) would be a valuable reference for future contract arrangement of projects of sewage treatment works.

4.6 Audit noted that, apart from the issues identified in PARTs 2 and 3 above, there were various issues related to the implementation of the first DBO contract for upgrading and operation of PPSTW, which merit DSD's attention and follow-up actions, and DSD could draw on the experience gained in implementing future DBO contracts (see paras. 4.7 to 4.15).

Need to keep under review the cost-effectiveness of adopting DBO contract arrangement

4.7 In July 2009, FC approved the funding for the upgrading works at an estimated cost of \$1,360.9 million (see para. 1.6). However, the APE was not sufficient to cover the tender price for the design and construction portions of the recommended tender.

4.8 In July 2010, FC approved an increase of the APE by \$559.6 million (41% — Note 65) to \$1,920.5 million for meeting the required expenditure of the upgrading works. The justifications for the cost increase provided by the Environment Bureau were as follows:

- (a) ***Higher capital cost.*** The DBO contract arrangement helped optimise the interfaces among design, construction and operation of PPSTW at early stages of the project and contractor would apply innovative technologies in wastewater treatments. Increase of APE for the upgrading works was required for additional capital cost for developing a sewage treatment

Note 65: *The increase of APE by \$559.6 million comprised an increase in design and construction cost for the upgrading works of \$403.1 million and an increase in provision for price adjustment of \$156.5 million.*

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plant design that fulfilled specified performance requirements and for achieving higher cost-effectiveness in subsequent operations; and

- (b) *Savings in operating cost.* In return, as significant savings would be yielded in subsequent operation of the plant, the benefits of enhanced operational efficiency should outweigh the need for additional capital cost of \$403.1 million. It was expected that the estimated annual recurrent expenditure arising from the upgrading works for the operation stage would be decreased by \$30 million (33%) from \$90 million to \$60 million. As a result, overall savings of \$450 million would be yielded over the 15-year life cycle of the upgraded PPSTW.

4.9 As of January 2021, the upgraded PPSTW had been operated for more than 6.5 years. According to DSD, it had exercised tight control on the operating cost of the upgraded plant and the actual operation expenditure in general reflected that the estimated annual saving of \$30 million had been achieved. To assess the cost-effectiveness of the higher capital cost incurred under the DBO contract arrangement and facilitate drawing on the experience gained in future, in Audit's view, DSD needs to keep under review the savings achieved in operating the upgraded PPSTW.

Need to timely conduct post-completion review

4.10 According to the Project Administration Handbook for Civil Engineering Works issued by the Civil Engineering and Development Department:

- (a) a post-completion review is a useful project management tool and shall be conducted upon the substantial completion of a major consultancy agreement or a major works contract on projects under the Public Works Programme. The emphasis and objective of the review are to gain maximum benefit from the experience accrued, rather than to apportion blame;
- (b) there is no rigid definition for major projects or the minimum number of reviews to be undertaken by departments. As a broad guideline, post-completion reviews are generally not warranted for consultancy agreements and works contracts of a project which has a total cost less than \$500 million or of a project which does not involve complicated

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technical and management issues. Based on the above guidelines, departments could select agreements/contracts to be reviewed at their discretion;

- (c) indicators that a project involves complicated issues may include project involving:
 - (i) a claim of a substantial sum, say over \$1 million; and
 - (ii) incidents that attract public attention;
- (d) a post-completion review should be carried out within a reasonable period, say six months, after the substantial completion of a consultancy agreement or a works contract. However, in case there are on-going disputes with the service providers, it may be more appropriate to defer the review until the disputes are settled; and
- (e) a post-completion review should be led by the officer in charge of the project and he or she should solicit input from the client and other project participants (such as the consultants, contractors and subcontractors) as appropriate. Upon the completion of a post-completion review, the department shall prepare a report documenting all concerned issues, findings, conclusions and recommendations for future reference by the department.

4.11 The design and construction portions of Contract A were already substantially completed in May 2014 and the total contract expenditure (\$1,774.7 million — see para. 1.10) was much higher than \$500 million (see para. 4.10(b)). However, Audit noted that, as of January 2021 (more than six years thereafter), DSD had not conducted a post-completion review for the design and construction portions of Contract A.

4.12 As a post-completion review is a useful project management tool and to facilitate drawing on the experience gained in future DBO contracts, in Audit's view, DSD needs to conduct a post-completion review for the design and construction portions of Contract A.

Scope for making better use of Knowledge Management Portal in sharing experience gained

4.13 Upon the request of DSD, Consultant X commissioned a review of the effectiveness and efficiency of the implementation of Contract A in April 2016 and submitted the review report in April 2017. The report aimed to share the experience gained from the upgrading and operation of PPSTW and make recommendations for improving future DBO contracts. Consultant X's recommendations included:

- (a) ***Deeper involvement of DSD during design stage.*** Under the DBO contract arrangement of PPSTW, with a view to shortening the design checking procedures and enhancing cost-effectiveness and efficiency, DSD was only involved in major issues (e.g. proposed changes of Employer's Requirements — see Note 10 to para. 2.2) and less DSD resources were committed to the project during the design stage. On the other hand, DSD's expertise in sewage treatment works, which was unique in Hong Kong, was not fully utilised. Deeper involvement of DSD during the design stage would be beneficial to the project; and
- (b) ***Setting of lower bound Employer's Requirements.*** For a DBO contract, the Employer's Requirements were necessarily performance specifications, which allowed room for innovation, introduction of proprietary designs and new technologies and utilisation of expertise from around the world. It also allowed room for the contractor to develop its operation and maintenance strategy and the modes of operation that would suit its design. On the other hand, flexibility in Employer's Requirements could be exploited by the contractor. Additional lower bound requirements should thus be stipulated in the Employer's Requirements.

According to DSD, Consultant X's recommendations had been adopted in the upgrading works project of the San Wai Sewage Treatment Works (see para. 4.4(b)).

4.14 According to DSD, the experience gained during the implementation of Contract A would be a valuable reference for future procurement of sewage treatment works projects and should be properly included in the Knowledge

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Management Portal of DSD (Note 66). Audit noted that, regarding the information for DBO contracts, as of January 2021:

- (a) the Knowledge Management Portal only contained a PowerPoint presentation on DBO contract procurement (Note 67) dated November 2016 (i.e. more than 4 years ago); and
- (b) in particular, the results in the review report of Contract A (see para. 4.13) and DSD's experience gained in monitoring the operation of the upgraded PPSTW were not posted onto the Portal.

4.15 In Audit's view, there is scope for DSD to make better use of the Knowledge Management Portal in sharing experience gained from DBO contract arrangement (e.g. regular updating of experience gained in implementing DBO contracts).

Audit recommendations

4.16 **Audit has recommended that the Director of Drainage Services should:**

- (a) **keep under review the savings achieved in operating the upgraded PPSTW under the DBO contract arrangement;**
- (b) **conduct a post-completion review for the design and construction portions of Contract A to facilitate drawing on the experience gained in future DBO contracts; and**

Note 66: *According to DSD Technical Circular No. 1/2005, Knowledge Management Portal is a departmental centralised knowledge database to capture valuable experience and enhance effective sharing of information. It is a platform to facilitate storage, retrieval and sharing of useful knowledge and information within DSD.*

Note 67: *The presentation covered the upgrading works projects of PPSTW, the Stonecutters Island Sewage Treatment Works and the San Wai Sewage Treatment Works.*

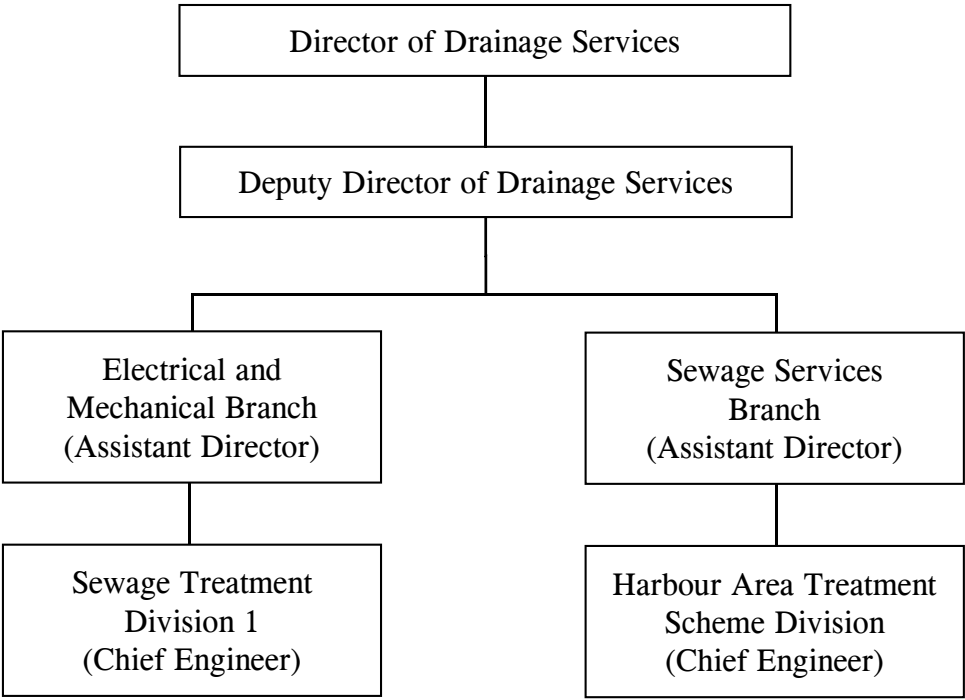
Administration of design-build-operate contract arrangement

- (c) **make better use of the Knowledge Management Portal in sharing experience gained from DBO contract arrangement (e.g. regular updating of experience gained in implementing DBO contracts).**

Response from the Government

4.17 The Director of Drainage Services agrees with the audit recommendations.

**Drainage Services Department:
Organisation chart (extract)
(31 October 2020)**



Source: DSD records

Acronyms and abbreviations

APE	Approved project estimate
Audit	Audit Commission
CCTV	Closed-circuit television
CEPT	Chemically enhanced primary treatment
CMM System	Computerised Maintenance Management System
DBO	Design-build-operate
DSD	Drainage Services Department
<i>E. coli</i>	<i>Escherichia coli</i>
EPD	Environmental Protection Department
FC	Finance Committee
KPI	Key Performance Indicator
LD	Labour Department
LegCo	Legislative Council
m ³	Cubic metres
PPSTW	Pillar Point Sewage Treatment Works
SCADA System	Supervisory Control and Data Acquisition System
UV	Ultraviolet