

A. Introduction

The Audit Commission ("Audit") conducted a review of the Sha Tin Section of Route 8 ("Sha Tin Section").

2. Hon Abraham SHEK Lai-him declared that he was an independent non-executive director of MTR Corporation Limited. Hon SHIU Ka-fai declared that he was engaged in the trading business of construction materials but was not involved in the projects under discussion.

Background

3. Sha Tin Section which links Sha Tin and Cheung Sha Wan was built to alleviate traffic congestion at the then existing road links between Kowloon and Sha Tin, in particular Lion Rock Tunnel and Tate's Cairn Tunnel. The construction was implemented through awarding three works contracts (Contracts A, B and C),¹ and a traffic control and surveillance system contract (Contract D).² The project works under Contracts A, B and D were implemented by the Highways Department ("HyD") while those works under Contract C were entrusted to the Civil Engineering and Development Department ("CEDD") for implementation. The design and construction supervision work of Sha Tin Section were conducted by Consultant X under Consultancy X for Contracts A and B, and Consultant Y under Consultancy Y for Contract C. The audit review mainly covered Contracts A, B and C.

4. The Finance Committee of the Legislative Council ("LegCo") approved funding of \$7,083.9 million in total for the investigation, detailed design and construction of Sha Tin Section. The project expenditure was \$6,179.1 million as of December 2017. Sha Tin Section was commissioned in March 2008.

5. Sha Tin Section (a 5.6 kilometre dual three-lane expressway), together with Tsing Yi Section (a 7.6 kilometre dual three-lane expressway between

¹ Contract A mainly involved the construction of Lai Chi Kok Viaduct. Contract B mainly involved the construction of Eagle's Nest Tunnel while Contract C mainly involved the construction of Sha Tin Heights Tunnel and Approaches.

² Contract D involved the implementation of traffic control and surveillance system for both Sha Tin Section and Tsing Yi Section. An audit review of Tsing Yi Section in 2014 had covered this contract. See Chapter 4 (Tsing Yi Section of Route 8) of Director of Audit's Report No. 62.

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Cheung Sha Wan and Tsing Yi) of Route 8, form the Tsing Sha Control Area ("TSCA"). The management, operation and maintenance ("MOM") of TSCA has been outsourced to an operator through open tender since the commissioning of Sha Tin Section.

The Committee's Report

6. The Committee's Report sets out the evidence gathered from witnesses. The Report is divided into the following parts:

- Introduction (Part A) (paragraphs 1 to 11);
- Administration of Contract A (Part B) (paragraphs 12 to 33);
- Administration of Contract B and Contract C (Part C) (paragraphs 34 to 61);
- Usage and management of Sha Tin Section (Part D) (paragraphs 62 to 96); and
- Conclusions and recommendations (Part E) (paragraphs 97 to 99).

Public hearings

7. The Committee held three public hearings on 29 May, 11 June and 20 July 2018 respectively to receive evidence on the findings and observations of the Director of Audit's Report ("Audit Report").

Speech by Director of Audit

8. **Mr David SUN Tak-kei, Director of Audit**, gave a brief account of the Audit Report at the beginning of the Committee's public hearing held on 29 May 2018. The full text of his speech is in *Appendix 17*.

Opening statement by Secretary for Transport and Housing

9. **Mr Frank CHAN Fan, Secretary for Transport and Housing**, made an opening statement at the beginning of the Committee's public hearing held on 29 May 2018, a summary of which is as follows:

- HyD amended the Structures Design Manual for Highways and Railways ("SDM") in August 2006 and May 2013 setting out guidelines for carrying out appropriate level of independent checking on the design of different categories of new highway structures and the associated modification of existing highway structures by consultants or contractors employed by the Government;
- HyD would handle tender enquiries according to the guidelines stipulated in the Project Administration Handbook for Civil Engineering Works ("PAH"). HyD would also extend the existing tender vetting mechanism to cover responses to tender enquiries to enhance monitoring;
- HyD would require its staff and consultants to conduct independent checking on the Bills of Quantities ("BQ")³ in future projects; and
- a working group was reviewing PAH on providing guidelines to carefully check that, for multi-contract projects, there were no conflicts among the time programmes for interface works in all contract works concerned.

The full text of Secretary for Transport and Housing's opening statement is in *Appendix 18*.

Vetting of deliverables produced by consultants

10. The Committee enquired about the work flow of HyD and CEDD in vetting the deliverables produced by Consultant X and Consultant Y under Sha Tin Section project.

³ BQ contain estimated quantities of various works items. BQ form part of the tender documents and subsequently the contract documents after the award of a contract.

11. **Director of Highways** and **Director of Civil Engineering and Development** provided the relevant information in the letters dated 17 May 2018 (*Appendix 19*) and 14 May 2018 (*Appendix 20*) respectively. **Director of Highways** stated in his letter that the consultants should provide and complete the services in accordance with the agreements. The services covered the preparation of the tender documents, drawings and other deliverables. As stipulated in the consultancy agreements, the consultants should submit deliverables to HyD and other concerned departments for comments and approval. HyD had issued a document entitled "HQ/GN/02 Guidelines for checking submissions of consultants" ("Checking Guidelines") (*Appendix 21*) setting out the principles for checking the submissions prepared by the consultants. **Mr Kelvin LO Kwok-wah, Project Manager/Major Works, HyD** explained at the public hearings that there was a three-tier mechanism in vetting submissions from the consultants in respect of tender documents and technical drawings. These submissions would be checked by an engineer grade staff first and would then be reviewed by a senior engineer grade staff. Finally, approval was required from a D1 or D2 directorate grade staff, depending on the nature of submissions.

B. Administration of Contract A

12. The Committee noted from paragraph 2.3 of the Audit Report that HyD awarded Contract A to Contractor A in September 2003 at a contract sum of \$1,066.2 million. The contract works were completed in November 2009 (about 24 months later than the original completion date of November 2007) and the total contract expenditure was increased to \$1,445 million (\$378.8 million (36%) over the original contract sum). In addition, there were disputes under Contract A and Consultancy X.

13. The Committee enquired about the claims submitted by Contractor A under Contract A and the amount certified by Consultant X, the Engineer responsible for supervising the contract works.

14. **Mr Daniel CHUNG Kum-wah, Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that the total amount and breakdown of the claims unresolved under Contract A and disputed by Contractor A ("Arbitration A") were as follows:

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	Claimed Amount (\$ million)
Varied and additional works	\$588.0
Measurement	\$50.7
Prolongation Cost	\$122.6
Further financial entitlement	\$255.4
Total	\$1,016.7

The sum of claims certified by Consultant X under Contract A was \$85.7 million. This dispute was finally settled through an extra-contractual settlement sum of \$273 million.

15. According to paragraph 2.7 of the Audit Report, the disputes between HyD and Contractor A on the claims in Arbitration A mainly consisted of two key issues, namely adequacy of the design for the structure and erection of Lai Chi Kok Viaduct, and measurements and valuations of additional or varied works. Noting that Contract A was a re-measurement contract, the Committee sought explanation on "additional or varied works" and details of the additional or varied works involved in the arbitration.

16. **Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that in accordance with the General Conditions of Contract for Civil Engineering Works, the Engineer of a public works contract should order any variation to any part of the Works that was necessary for the completion of the Works and had the power to order any variation that for any other reason should in his opinion be desirable for or to achieve the satisfactory completion and functioning of the Works by issuing variation orders. The \$588 million additional or varied works involved in Arbitration A was broken down into: \$128.5 million for viaduct structure design and erection, \$20.8 million for project design additional resources and \$438.7 million for variation orders.

17. In response to the Committee's enquiry about the process of Arbitration A between HyD and Contractor A as well as the cost details, **Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that according to legal advice, the expenditure incurred in the mediation and the arbitration with Contractor A was confidential and sensitive information, and it was inappropriate to disclose such information to third parties as it touched on the Government's negotiation and settlement strategy and such

discussion would be prejudicial to the handling of future cases. He further explained in his letter that before accepting Contractor A's request on 5 February 2008 for mediation, HyD obtained legal opinion from the Legal Advisory Division (Works) of the Development Bureau ("LAD(W)") on 18 February 2008 about the feasibility of settling the claim by mediation. In accordance with the Government's policy of resolving construction disputes as far as possible by mediation and given that mediation was a viable and successful way of settling construction disputes, LAD(W) supported the proposal of mediation.

18. Noting from paragraphs 2.30 to 2.33 of the Audit Report about Audit's view that HyD needed to, among others, seek the relevant authority's prior agreement to the strategy or bottom line for the contract negotiation before entering into negotiation with contractors or consultants, the Committee enquired about HyD's reasons to reach a non-committal consensus with Contractor A while the Financial Services and the Treasury Bureau ("FSTB")'s agreement was still pending.

19. **Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that:

- in December 2010, HyD had sought and obtained FSTB's prior agreement to a strategy and bottom line for proceedings in Arbitration A. While pending FSTB's agreement to a revised strategy and bottom line for proceedings in Arbitration A submitted by HyD in June 2012, Contractor A approached HyD in July 2012 to explore the possibility of settling the disputes without continuing the arbitration proceedings on a without prejudice basis; and
- for the benefits of both parties in saving huge costs, HyD agreed to discuss with Contractor A with an attempt to settle the disputes on a without prejudice basis as early as possible. In end July 2012, both parties reached a non-committal consensus to settle all the disputes under Contract A at a settlement sum of \$273 million on a "no admission of liability" basis. Upon obtaining FSTB's approval on 11 October 2012, HyD and Contractor A executed the formal settlement agreement on 24 October 2012.

20. The Committee asked about details of the extra-contractual settlement sum of \$273 million, in particular HyD's basis to support its views that not all the disputes with Contractor A settled under the \$273 million could be attributed to Consultant X

and that the proposed settlement would cost appreciably less and be beneficial to the Administration.

21. **Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that the settlement sum was a global figure without breakdown. According to legal advice, some of the settlement sum paid in settlement of Contractor A's claims were related to additional or varied works but not the viaduct structure design and erection caused by the performance of Consultant X. Not all the disputes with Contractor A settled under the \$273 million could be attributed to Consultant X. HyD considered that the proposed settlement would cost less and be beneficial to the Government having regard to the assessed total risk exposure of the Government regarding the disputes and the costs in continuing the arbitration proceedings.

22. The Committee asked why FSTB had to spend four months to approve the settlement of the disputes under Contract A and the basis for its approval.

23. **Mr Raistlin LAU, Deputy Secretary for Financial Services and the Treasury (Treasury)**³ said at the public hearings and **Secretary for Financial Services and the Treasury** supplemented in his letter dated 8 June 2018 (*Appendix 23*) that:

- FSTB exercised due diligence and considered every application for proposed settlement of disputes carefully and made its best endeavour to meet any deadline;
- in the present case, HyD sought FSTB's approval by memo on 21 June 2012 for increasing the amount of payment-into-court related to the disputes on Contract A. FSTB followed up in writing to formally seek supplementary information from HyD on 6 July 2012. HyD responded to FSTB on 7 August 2012. Shortly after that, HyD requested in writing on 10 August 2012 for FSTB to suspend processing the application;
- on 24 August 2012, HyD submitted a paper seeking FSTB's approval for the proposed settlement sum after reaching a non-committal consensus with Contractor A. FSTB subsequently wrote three times to HyD for further information, to which HyD gave a consolidated reply on 26 September 2012. After receiving HyD's further reply

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on 5 October 2012, FSTB approved the proposed settlement sum on 11 October 2012; and

- FSTB approved the proposed settlement of the disputes under Contract A after taking into account the legal advice obtained and satisfied itself that a settlement proposal could best safeguard the overall interest of the Government in terms of cost, programme implication, potential liability, risk exposure, and other public interest considerations before approving any settlement proposal.

24. In view of the unsatisfactory performance of Consultant X, the Committee enquired whether HyD had imposed any sanctions on the consultant. **Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that HyD managed the consultants according to Handbook on Selection, Appointment and Administration of Engineering and Associated Consultants and Development Bureau ("DEVB") Technical Circular (Works) No. 3/2016 - Management of Consultants' Performance. Consultant X's performance would be recorded in the quarterly reports which would be used as reference to evaluate bids for government tenders submitted by Consultant X in the future. In light of the recovery, through the extra-contractual settlement, of the amount from Consultant X to settle the disputes being on a "without admission of liability" basis, the disputes on the performance of Consultant X in the relevant design and response to tender queries issues could not be ascertained.

25. The Committee noted that HyD had vetted but not discovered Consultant X's design problem and its reply to tender enquiries was confusing. The Committee sought information on HyD's manpower strength for vetting Contract A.

26. **Director of Highways** advised in his letter dated 17 May 2018 (*Appendix 19*) that one Chief Engineer, one Senior Engineer and one Engineer were involved in the project management office for Contract A. He further said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that:

- HyD had already reminded its staff and consultants in May 2018 to continue to strictly follow the guidelines stipulated in SDM, and they should strictly comply with the requirements for handling tender queries including those to be enhanced in PAH; and

- for responses to tender queries, HyD would review and update, if necessary, the Checking Guidelines to incorporate principles for checking the responses to tender queries prepared by the consultants.

27. The Committee enquired about general measures taken/to be taken to better protect the Government's interests in contracting with consultants/contractors for major public works contracts in future.

28. **Secretary for Development** replied in his letter dated 8 June 2018 (*Appendix 24*) that:

- to strike a balance in apportioning risks between the contracting parties to deal with unforeseen circumstances that might happen during the execution of the contract, the Administration had to allow the consultants/contractors to submit claims to compensate their losses in the event that certain unforeseen circumstances were encountered;
- in recent years, DEVB had been advocating "collaborative partnership" in the implementation of public works projects, including the adoption of the "New Engineering Contract" ("NEC") form to enhance management efficiency and cost effectiveness;
- NEC encompassed contract provisions to encourage contracting parties to adopt a partnering approach to take forward construction works, thereby avoiding or minimizing disputes. Under the NEC form of contracts, contracting parties were required to give early warnings on any risks that could increase project costs and/or cause any delay as soon as the risks arose. The parties should then work together to address such risks in a collaborative manner to determine the appropriate measures to deal with and mitigate the risks. In this way, the NEC form could help improve the performance of construction contracts in terms of cost and time control; and
- NEC form included, among other things, target cost options which were more suitable for relatively large-scale and complex projects. A pain/gain share mechanism was built into such options to deal with any budget overrun/cost saving as compared with the final target cost, thereby setting a common objective between the contracting parties to enhance project management and tighten cost control. Contractors had the incentive to proactively propose more innovative and

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cost-effective construction proposals so as to lower the cost and/or complete the works earlier.

29. The Committee noted from Note 13 of paragraph 2.21 of the Audit Report that HyD amended SDM in August 2006 setting out guidelines for carrying out appropriate level of independent checking on the design of different categories of new highway structures and the associated modification of existing highway structures by consultants or contractors employed by the Government. The Committee sought details of such independent checking and asked whether this new measure would be extended to all major public works.

30. **Director of Highways** said at the public hearings and supplemented in his letter dated 8 June 2018 (*Appendix 22*) that the independent checking would be conducted by a Checking Engineer appropriate to its Category. There were three categories of highway structures requiring checking by Checking Engineers. For Category I, the Checking Engineer should be a qualified professional in the same organization who might be from the same design team. For Category II, the Checking Engineer should be a qualified professional or checking team in the same organization but should be independent of the design team. For Category III, the Checking Engineer should be a checking team from a separate independent organization. Details of the classification of highway structures for checking are in *Appendix 22*. Since the promulgation of this new requirement in 2006, HyD had not identified any irregularities in the independent checking.

31. **Secretary for Development** replied in his letter dated 8 June 2018 (*Appendix 24*) that under the current mechanism, independent checking of the design at an appropriate level was normally required for major structures of different public works projects according to their nature, complexity and importance. With the relevant works departments, DEVB would conduct a review to align and/or update the levels of such independent design checks to take into account the latest development in construction technology.

32. The Committee considered that if Audit did not carry out an audit review on Sha Tin Section, details of the extra-contractual settlement sum of \$273 million on a "without admission of liability" basis between HyD and Contractor A would not be made known to the public. LegCo would have no means to monitor these claims or settlements, in particular for those projects which were completed within the original Approved Project Estimates and thus no additional funding approval was required by

LegCo. The Committee asked whether the Administration would consider setting up a reporting mechanism to LegCo on cases for which substantial amount was paid out by the Administration as claims or extra-contractual settlements to contractors for additional or varied works or for any other reasons.

33. **Secretary for Development** replied in his letter dated 8 June 2018 (*Appendix 24*) that:

- details of claims for additional or varied works submitted by contractors under public works contracts normally contained commercially sensitive information, the public disclosure of which to LegCo might harm the competitive or financial positions of the contractors and could result in the Government's breach of its obligation not to divulge information as provided in the contracts. Such disclosure might also prejudice the Government's position in defending against other similar claims in possible future legal proceedings; and
- there was already a check-and-balance mechanism in place for vetting and approving contract variations as well as certifying contract claims. Works departments were required to follow and comply with relevant provisions of works contracts and other prevailing Government guidelines/requirements, including the Stores and Procurement Regulations, and seek approval from the relevant internal delegated authorities in issuing contract variations and certifying claims even if the Approved Project Estimates of the projects were not exceeded. Approved contract variations and certified claims would be copied to Audit for information. If the situation warranted, Audit would conduct audits and where necessary reported the cases to the Committee. The Administration considered that the present mechanism of reporting contract variations and claim settlements to Audit had been working well.

C. Administration of Contract B and Contract C

Contract B

34. The Committee noted from paragraph 3.3 of the Audit Report that in September 2003, HyD awarded Contract B to Contractor B at a contract sum of \$1,836 million. The contract works were completed in February 2009

(about 15 months later than the original completion date of November 2007). The total contract expenditure was \$2,317.1 million (an increase of \$481.1 million (26%) over the original contract sum of \$1,836 million).

35. According to paragraph 3.9 of the Audit Report, Audit noted that there was a discrepancy in the thickness of smoothing shotcrete requirement for the tunnelling works of Eagle's Nest Tunnel ("EN Tunnel") between the contract clause (i.e. 100 millimetres ("mm") at maximum) and the contract drawing (i.e. 170 mm). The 170 mm smoothing shotcrete was an omitted BQ item and, eventually, HyD paid \$43.7 million to Contractor B for the works item omitted in BQ. The Committee enquired about whether spot check or full check had been adopted for the tender documents and the contract drawings prepared by Consultant X under Contract B in accordance with the Checking Guidelines; the reasons for not detecting the above discrepancy and whether HyD considered it necessary to review the Checking Guidelines.

36. **Project Manager/Major Works, HyD** said at the public hearings and **Director of Highways** supplemented in his letter dated 10 August 2018 (*Appendix 25*) that:

- in accordance with the Checking Guidelines, HyD had spot checked the documents, designs and drawings and selected specific areas or items to carry out detailed check on the Particular Specifications, drawings and BQ prepared by Consultant X under Contract B. Based on records, HyD had checked the section of the tender documents in relating to the thickness of the smoothing shotcrete requirements and drawing and provided comments to Consultant X;
- notwithstanding the checking and approval by HyD, according to the consultancy agreement, it should not affect the responsibilities of Consultant X to provide and complete the professional services including the preparation of tender documents; and
- the checking of the tender documents including Particular Specifications, drawings and BQ was divided and assigned amongst different officers at that time in order to complete the checking within a short period. This might be a reason for not detecting the discrepancy amongst the documents. HyD would review and update the Checking Guidelines to enhance the checking system and had reminded individual project teams to assign the checking of concerned or related

sections amongst different parts of tender documents to the same officer.

Director of Highways and **Project Manager/Major Works, HyD** added at the public hearings that the tender documents and the drawings for the contract were voluminous with some 7 000 pages and it would be difficult to check all information therein to ensure that there were no errors and omissions.

37. In response to the Committee on how the rate of 170 mm shotcreting was determined, **Project Manager/Major Works, HyD** said at the public hearings and **Director of Highways** supplemented in his letter dated 10 August 2018 (*Appendix 25*) that pursuant to General Conditions of Contract for Civil Engineering Works Clauses 59 and 61 (*Appendix 26*), the omitted works item was valued at a rate as determined based on the rate of a similar item in BQ of Contract B and \$43.7 million was paid to Contractor B subsequently for the omitted works item. The Government had to pay the contractor for the work done according to the rate even if the shotcreting of 170 mm thickness was specified in the tender documents and BQ. However, **Director of Highways** agreed at the public hearings that the cost might not be \$43.7 million if there was no discrepancy in the thickness of shotcreting item in the tender documents and BQ.

38. According to paragraph 3.11 of the Audit Report, Contractor B made a claim for the costs of performing controlled blasting for the formation of the tunnel perimeter which was omitted in BQ. The Committee enquired whether the formation of the tunnel perimeter could be accomplished by techniques other than controlled blasting. **Project Manager/Major Works, HyD** said at the public hearings and **Director of Highways** supplemented in his letter dated 10 August 2018 (*Appendix 25*) that according to Particular Specification of Contract B, controlled blasting technique was specified for the formation of the tunnel perimeter. Controlled blasting was omitted in BQ possibly because it was not recognized at that time that the original extent of works covered by tunnel excavation in Standard Method of Measurement section 18 did not include controlled blasting. According to General Conditions of Contract for Civil Engineering Works Clause 59, any items omitted from BQ should be corrected by the Engineer and the value of the works should be ascertained in accordance with Clause 61 (*Appendix 26*). Consultant X had handled this omitted item in accordance with the contract.

39. With reference to Table 10 in paragraph 3.20 of the Audit Report, the Committee asked about the formula for calculating the prolongation cost and whether

Consultant X's assessment of the extension of time ("EOT") and prolongation costs for the works in Butterfly Valley and EN Tunnel was justified. The Committee also sought details of the mechanism for HyD to check the consultant's assessment of EOT and hence the prolongation costs.

40. **Project Manager/Major Works, HyD** said at the public hearings and **Director of Highways** supplemented in his letter dated 10 August 2018 (*Appendix 25*) that:

- prolongation cost was generally the time related cost (e.g. the costs of a contractor's site establishment, site overheads and general plant) that was typically affected by a delay to the critical path of construction works. Contracts included provisions for granting EOT for completion due to events covered by the contract provisions, such as additional works, inclement weather etc. The Engineer would also assess the actual situation of each case, with the prolongation cost calculated as the time related cost additionally incurred for the relevant delay duration;
- Consultant X had made the relevant decisions in administering Contract B in accordance with the contract provisions. Consultant X's assessment of EOT and prolongation costs for the works in Butterfly Valley and EN Tunnel was justified as EOTs were due to additional works at the three slopes arising from actual site conditions undetected at the design stage; and
- according to the terms of the consultancy, consultants should report to HyD all claims for additional payment and EOT made by the contractor, and submit the details and justifications of the preliminary assessments to enable HyD to provide its views. The consultants should take into account HyD's views before making their final assessments. No EOT was granted to Contractor B for delay due to its own faults.

41. With reference to paragraphs 3.22(a) and (b) of the Audit Report, the Committee sought the reasons for conducting additional slope stabilization works at Slope A; reasons for unable to include the additional slope stabilization works to Slope A and installation of watermains on Slope A in the tender documents; and whether HyD considered the scale of site investigations ("SI") conducted by

Consultant X for the works in Butterfly Valley sufficient before the award of contract.

42. **Project Manager/Major Works, HyD** said at the public hearings and **Director of Highways** supplemented in his letter dated 10 August 2018 (*Appendix 25*) that:

- additional slope stabilization works at Slope A were conducted to cope with actual site conditions undetected in earlier SI. Owing to the additional slope stabilization works to Slope A, the installation of watermains on Slope A was required to be realigned to cope with the actual topographical conditions;
- as the actual site conditions were undetected in earlier SI and the additional slope stabilization works were not anticipated at the design stage, the additional slope stabilization works to Slope A and the realignment of watermains on Slope A were unable to be included in the tender documents;
- Consultant X had conducted site or ground investigations for Contract B according to "Geoguide 2 – Guide to Site Investigation" ("Geoguide 2") published by the Geotechnical Engineering Office ("GEO") of CEDD and sought GEO's comments according to Lands and Works Branch Technical Circular No. 3/88. Taking into account GEO's no adverse comments on the ground investigation plan prepared by Consultant X, HyD staff concerned at that time considered the scale of SI sufficient before the award of contract; and
- HyD agreed to continue to conduct thorough SI as far as practicable with a view to incorporating comprehensive and adequate information for design and tender purposes. Geoguide 2 had stated that the uncertainties could be reduced but, except by complete excavation, could never be wholly eliminated by a more intensive investigation.

43. **Secretary for Development** added in his letter dated 8 August 2018 (*Appendix 27*) that the Administration had published Geoguide 2 giving guidance on good SI practices for project offices to plan and carry out investigation of the sites, with the purposes of assessing their suitability for civil engineering and building works, and acquiring knowledge of site characteristics that affected the design and construction of such works and the security of adjacent properties.

The Administration also conducted regular review and updated Geoguide 2 (last updated in December 2017) to incorporate the latest technical guidelines and the best practices relating to SI, thereby enhancing the accuracy of site condition information obtained from SI for public works projects.

44. According to paragraph 3.23 of the Audit Report, Contractor B contended that it was beyond his reasonable contemplation at the time of tender that additional ground investigation and stabilization works to another two slopes located in the vicinity affected by the blasting works of EN Tunnel had to be carried out before obtaining a blasting permit. At the public hearings, **Project Manager/Major Works, HyD** said that additional ground investigation and stabilization works had to be carried out as squatter huts erected on the above two slopes might be affected by the blasting works. The Committee asked whether Consultant X had, before preparing the tender documents, assessed the possible impact of the blasting works on the relevant squatter huts; HyD's guidelines for assessing the impact of public works projects on the nearby residents in the vicinity of works sites, in particular the structure of their houses; and measures taken/to be taken to enhance the accuracy of site condition information to be obtained from preliminary SI for major public works projects in the future.

45. **Project Manager/Major Works, HyD** said at the public hearings and **Director of Highways** supplemented in his letter dated 10 August 2018 (*Appendix 25*) that:

- for public works involving blasting operations, the project proponent should have obtained GEO's agreement to the pre-contract blasting assessment report ("BAR"), which aimed to identify all sensitive receivers, assess any adverse effects and risks arising from the transport, storage and use of explosives for blasting, and to demonstrate the feasibility of carrying out the blasting works in a practical, safe and acceptable manner. "Guidance Note on How to Apply for a Blasting Permit" published by the Mines Division of CEDD provided guidelines for the project proponent to follow in preparing BAR. A copy of the Guidance Note is in *Appendix 25*;
- before preparing the tender documents, Consultant X had assessed and proposed an allowable blasting vibration induced, i.e. in terms of peak particle velocity for the village houses including the squatter huts in the vicinity of the proposed tunnel blasting works with reference to international standards, so as to avoid possible blasting impact on the

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houses. GEO and the Water Supplies Department had reviewed BAR prepared and submitted by Consultant X according to Lands and Works Branch Technical Circular No. 3/88 and had no comments on the blasting assessment results;

- BAR prepared in design stage had assessed the possible impact of the blasting works on the relevant squatter huts and the two slopes, confirming that they would not be affected. It was considered that additional ground investigation and stabilization works to the above two slopes were not necessary. During construction stage of the project, GEO reconfirmed that they had no adverse comments on the allowable peak particle velocity proposed for the village houses including the squatter huts; and
- a complaint about some wall tiles having fallen from the top of kitchen door frame was received from the occupant of the concerned squatter hut in early 2004 before the commencement of the blasting works of EN Tunnel. The additional ground investigation and subsequent slope stabilization works were required by GEO to make the slope stability more conservative.

46. **Secretary for Development** added in his letter dated 8 August 2018 (*Appendix 27*) about the general guidelines and requirements in respect of assessing the impact of rock blasting that:

- section 4.1.2 of Geoguide 2 advised that it was essential that investigations should cover all factors that might affect adjacent properties. Where possible, records of ground levels, groundwater levels and relevant particulars of adjacent properties should be made before, during and after construction. Where damage to existing structures was a possibility, adequate photographic records should be obtained. Adjacent buildings, structures and buried services, including pipes conveying water, gas or sewage, should be specifically considered, as they might be affected by vibrations, ground settlement or movement, or changes in groundwater levels during and after construction activities on the site. Hospitals and other buildings containing sensitive instruments or apparatus should be given special consideration;
- for projects involving rock blasting, sections 3.5 and 4.6.13 of Chapter 4 of PAH stipulated that project offices should conduct and

submit a blasting assessment as part of the geotechnical submissions to GEO for comment and agreement. The blasting assessment submission should contain, among other information, a report containing an assessment of the effects of blasting works, and proposals of preventive measures, to demonstrate that the proposed blasting would not cause any injury to persons or damage to property and sensitive receivers that might be damaged or destabilized by the proposed blasting works; and

- the contractor should obtain a blasting permit from Commissioner of Mines prior to commencement of the blasting works. The contractor should demonstrate that all necessary measures had been in place to prevent the blasting works from causing damage or adverse effects to adjacent facilities and structures, significant disruption to traffic or undue nuisance to the public, or any risk of injury to the public and the people working on site. The blasting permit would not be issued until the blasting assessment and method statement had been found satisfactory and the site was ready for blasting with all the site preparatory works completed to the required standards in PAH. The relevant parts of the guidelines are in *Appendix 27*.

47. Noting from paragraph 3.26(d) of the Audit Report that HyD would carry out extensive horizontal directional coring ("HDC") to obtain more accurate information in advance of the tunnel construction works of the Central Kowloon Route (connecting the West Kowloon reclamation and the proposed Kai Tak Development) project, the Committee asked whether this technique would be used for all tunnelling works in the future.

48. **Director of Highways** advised in his letter dated 10 August 2018 (*Appendix 25*) that HDC could be very useful for investigating deep tunnels as this technique could provide continuous information along the tunnel alignment to minimize uncertainty of the tunnel works and enhance the management of risks for the project. Where feasible and appropriate, HyD would use this technique more for tunnelling works in future. Notwithstanding this, the use of HDC was subject to limitations, such as the driven depths and lengths, the type of core samples that could be taken and the type of geotechnical tests that could be performed etc., and therefore might not be applicable to all tunnelling works.

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49. **Secretary for Development** added in his letter dated 8 August 2018 (*Appendix 27*) that the Administration encouraged the use of long horizontal boreholes parallel to the proposed tunnel alignment to obtain more comprehensive ground information and relevant guidelines were available in "GEO Technical Guidance Note No. 24 – Site Investigation for Tunnel Works". The relevant parts of the guidelines are in *Appendix 27*.

50. The Committee enquired about whether any sanctions had been imposed on Consultant X in respect of the discrepancy between the thickness of the smoothing shotcrete requirements in the tender documents and technical drawings as well as the omission of controlled blasting item in BQ.

51. **Director of Highways** advised in his letter dated 10 August 2018 (*Appendix 25*) that according to the guidelines stipulated at that time in DEVB Technical Circular (Works) No. 2/2009 on management of consultants' performance, the performance score of a consultant on individual consultancy was based on an overall assessment of individual aspects concerned. These performance scores would be consolidated into the consultant's performance rating to be considered in the bidding of future consultancies. Regulating actions, such as suspension from bidding, would be taken against a consultant by the project department concerned under serious circumstances e.g. court conviction, violation of laws, bankruptcy, the consultant having received two consecutive adverse performance reports, etc. HyD had been conducting assessments on Consultant X's overall performance in accordance with the guidelines stipulated in the above circular and considered that the overall performance of Consultant X was acceptable, with no regulating action taken.

Contract C

52. The Committee noted from paragraph 3.28 of the Audit Report that in November 2002, CEDD awarded Contract C to Contractor C at a contract sum of \$1,073.8 million. The contract works were completed in September 2008 (about three months later than the extended completion date). The total contract expenditure was \$1,199.6 million (an increase of \$125.8 million (12%) over the original contract sum of \$1,073.8 million).

53. With reference to paragraph 3.31(c) of the Audit Report in respect of Clauses A and B of Contract C, the Committee sought the reasons for CEDD to

decide that Clause B took precedence over Clause A in case of discrepancies, and whether it was a usual practice to put two separate clauses in a works contract to stipulate the facilitation period.

54. **Mr LAM Sai-hung, Director of Civil Engineering and Development** said at the public hearings and supplemented in his letter dated 7 August 2018 (*Appendix 28*) that:

- Particular Specification Clause 1.82(6) of Contract C (i.e. Clause A in Audit Report) stipulated that Contractor C should allow Contractors B and D to access the site and commence installation works of electrical and mechanical ("E&M") facilities and the traffic control surveillance system for a period of nine months. This meant that Contractor C had to provide facilitation works such as providing temporary lighting and ventilation inside tunnels during this period;
- the last sentence of Particular Specification Clause 1.82(6) stated that Contractor C should retain possession of and carry out upkeeping works (including facilitation works) for the duration as stipulated in Particular Specification Clause 1.82(1), i.e. until completion of section XVI or such earlier date as instructed by the Engineer (Clause B in Audit Report);
- as the requirement under Clause B was related to the time for completion of section XVI of the works calculated from and including the date for commencement which was stipulated under Clause 49 of the General Conditions of Contract for Civil Engineering Works, it should take precedence over Clause A which only specified the period for facilitation works;
- it was up to the contract drafter to choose the most appropriate mechanism to stipulate the required facilitation period in the contract documents depending on the specific need and circumstances of individual contracts; and
- the Particular Specification Clauses could be revised to simply stipulate that a nine-month facilitation period should be provided upon completion of sections VIII, IX and XI without making reference to the completion of section XVI of the Works.

55. The Committee asked whether extra cost was incurred arising from a shorter facilitation period of about 7.5 months for Contract C instead of 9 months as originally envisaged (paragraph 3.31(d) of the Audit Report refers). **Director of Civil Engineering and Development** said at the public hearings and supplemented in his letter dated 7 August 2018 (*Appendix 28*) that items were included in BQ under Contract C for the contractor to price for the provision of facilitation works on a monthly basis which were subject to remeasurement. The contractor was only paid for the actual period of facilitation works provided under the contract and therefore no extra cost was incurred.

56. As Director of Civil Engineering and Development said at the public hearings that BQ of Contract C provided a cost for eight months of facilitation period item, the Committee asked why the contract contained an eight-month facilitation period instead of nine months as originally envisaged. **Director of Civil Engineering and Development** said at the public hearings and supplemented in his letter dated 7 August 2018 (*Appendix 28*) that the estimated quantity of eight months inserted in the tender BQ for pricing by tenderers was based on the shorter period of facilitation works (i.e. 7.5 months) specified under Clause B. However, the actual period for provision of facilitation works was subject to remeasurement and paid under relevant BQ items.

57. According to paragraphs 3.35(b) and (c) of the Audit Report, 12 months were provided by Contractor C to further extend the provision of facilitation works. The Committee enquired about the measures to be taken to enhance the accuracy of the estimation of facilitation period and to eliminate the processing error in drafting contract clauses (paragraph 3.34(b) of the Audit Report refers).

58. **Director of Civil Engineering and Development** said at the public hearings and supplemented in his letter dated 7 August 2018 (*Appendix 28*) that under the current practice, the procuring departments or their consultants were required to carefully check whether the programmes of interfacing works were consistent with that managed by the procuring departments/consultants. The consultants were required to seek the procuring departments' comments on the time programmes prior to incorporation of the relevant information in the tender documents. The above requirements would be formally incorporated into PAH for implementation. **Director of Highways** advised in his letter dated 10 August 2018 (*Appendix 25*) that HyD would remind its staff and consultants, in preparing tender documents in future, to continue to carefully check and update that the prevailing

time programmes and associated contractual provisions for interface works in all contracts involving interfaces with other contracts were consistent.

59. **Secretary for Development** added in his letter dated 8 August 2018 (*Appendix 27*) that:

- to ensure the consistency of time programmes for interface works in public works contracts involving multi-contract arrangements, Section 9.1 in Chapter 5 of PAH required that for projects (a) involving sequential handling-over of the project site among contractors of concurrent contracts and/or; (b) in which the work progress of one contractor was dependent on that of another contractor in the same project, the project offices should carefully assess the compatibility of the multi-contract arrangement with the preferred contract forms of the project; and
- time allowance for programme of interfacing works varied depending on the scale and complexity of the interfacing works to be encountered by the project concerned. For a consistent approach in assessing the allowance for critical site activities, including interfacing works with other parties, and in response to Audit's recommendation in paragraph 3.38(b) of the Audit Report, the Administration had enhanced Chapter 5 of PAH in 2018 to introduce a checklist under its Appendix 5.57 requesting project offices to complete the checklist with relevant directorate officer's endorsement prior to tender invitation.

60. The Committee further asked the Administration measures taken/to be taken to strengthen the checking of accuracy of tender documents, contract clauses, drawings and BQ prepared by consultants for major public works contracts in future.

61. **Secretary for Development** advised in his letter dated 8 August 2018 (*Appendix 27*) that:

- sections 1.3 to 1.5 of Chapter 5 of PAH required project offices to exercise care in avoiding any ambiguities or discrepancies in the documents which formed a contract, seek advice from contract advisers on tender documents when genuine doubts emerged and submit tender

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documents for contracts estimated to exceed \$300 million in value to LAD for legal vetting prior to calling for tenders;

- the Administration had also updated section 7.2 of Chapter 5 of PAH to specify the need of minimizing omitted items as far as practicable and BQ should undergo a checking process to ensure the completeness and accuracy of BQ and elimination of major errors. To enhance the accuracy of BQ prepared by the consultants, the Administration highlighted in section 3.12 of Chapter 6 of PAH and DEVB Technical Circular (Works) No. 7/2017 requesting the project offices and the consultants to conduct a pre-tender cross-checking in the preparation of BQ and use Building Information Modeling technology in project design stages, which could enhance the preparation and/or checking of BQ; and
- the Administration also kept reminding project offices to duly reflect the consultants' performance in their performance reports in accordance with Appendices A and B of DEVB Technical Circular (Works) No. 3/2016 if deficiencies in the quality of tender documents prepared by them were identified. The relevant parts of the guidelines are in *Appendix 27*.

D. Usage and management of Sha Tin Section

62. With reference to paragraph 4.3 of the Audit Report that EN Tunnel and Sha Tin Heights Tunnel of Sha Tin Section were not congested during weekday peak hours, the Committee enquired about the reasons for not conducting a study or review on the road usage of Sha Tin Section between March 2008 and January 2017.

63. **Ms Mable CHAN, Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

- to further enhance the usage of Sha Tin Section to duly relieve the traffic congestion of the connecting roads between Kowloon and Sha Tin, the Transport Department ("TD") had been conducting detailed analysis and assessment with a focus on eliminating the bottleneck at the existing roads leading to Route 8;
- TD had been striving to implement the required road works projects, including the construction of an additional lane at the approach road

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from Tai Po Road (Sha Tin Section) leading to Route 8 near Scenery Court,⁴ the widening of Tai Po Road (Sha Tin Section) to a dual 3-lane carriageway,⁵ and taking forward the strategic highway project of Trunk Road T4;⁶ and

- in view of the above, TD had not conducted any study on the usage of Sha Tin Section.

64. In reply to the Committee about proposals received by TD on diverting bus and/or public minibus routes as well as red minibuses ("RMBs") to pass through EN Tunnel and Sha Tin Heights Tunnel, **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

- since the commissioning of Sha Tin Section in 2008 and up to December 2017, TD had proposed a total of 39 improvement items for introducing bus routes or strengthening the existing bus services passing through relevant sections of Route 8. After consultation with the relevant District Councils, 32 items of them had been or would be implemented, and the remaining seven items were either not materialized or revoked after implementation. Details of the measures are in *Appendix 29*;
- seven items under the Route Planning Programmes 2018-2019 that involved frequency enhancement and service introduction had the support of the relevant District Councils and were scheduled for implementation between the third quarter of 2018 and the first quarter of 2019. Details of the measures are in *Appendix 29*; and
- the Government's established policy was to encourage the conversion of RMBs to green minibuses for the sake of ensuring service quality level. Since the service routings and frequencies of RMBs were not subject to regulation, RMBs, for maintaining effective traffic management, were normally restricted from providing service in newly developed areas with a comprehensive rail and bus network and from using newly commissioned expressways. TD could allow minor

⁴ The relevant works were completed in 2015.

⁵ The funding for the relevant works was approved by the LegCo Finance Committee in May 2018. The works will commence in mid 2018.

⁶ The relevant works include the construction of a strategic road which connects Tsing Sha Highway and Shing Mun Tunnel Road in the west as well as with Sha Tin Road in the east, to provide a linkage between West Kowloon/Tsuen Wan and Ma On Shan and Sai Kung.

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relaxation on a case-by-case basis and was studying whether the restrictions on RMBs to operate on some road sections of Tsing Sha Highway could be relaxed.

65. In response to the Committee's enquiry about the tender exercise of MOM of TSCA, **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that upon the commissioning of TSCA on 19 March 2008, TD had conducted two open tender exercises to outsource MOM of TSCA. As the current MOM contract would end on 18 September 2019, TD was drafting tender documents for the next TSCA MOM contract in consultation with relevant government departments. It was expected that tender invitation would be conducted in the fourth quarter of 2018 and the contract could be awarded to the successful tenderer in the first quarter of 2019.

66. According to paragraph 4.11(c) of the Audit Report, a Government Monitoring Team ("GMT"), comprising officers from TD, HyD, the Electrical and Mechanical Services Department ("EMSD") and the Architectural Services Department ("ArchSD"), was responsible for monitoring the TSCA MOM operator's performance. The Committee sought the responsibilities and purview of each department.

67. **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

- there was a clear division of responsibilities among the four departments, with each overseeing a specific area of work: TD monitored the daily operation as well as traffic and incident management; HyD monitored the maintenance of bridges, viaducts and tunnel structures; EMSD monitored the maintenance of all E&M systems and equipment; and ArchSD monitored the maintenance of building structures;
- in response to Audit's recommendations, TD, in collaboration with three GMT members, had consolidated a list of "GMT Members Monitoring Responsibility for TSCA", which clearly set out the specific areas of responsibilities of various departments. The list is provided in *Appendix 29*; and

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- the departments concerned normally held meetings with the operator once every one to three months to maintain communication and monitor its performance. TD would also hold joint special meetings with the operator and relevant departments as necessary to monitor the operator's performance in undertaking important projects. TD would, where necessary, hold meetings with other GMT members to discuss management and maintenance issues relating to TSCA.

68. **Director of Highways** said at the public hearings and supplemented in his letter dated 26 June 2018 (*Appendix 30*) that the division of responsibilities and purview among members of GMT was not specified in the original contract. TD subsequently issued "GMT Members Monitoring Responsibility for TSCA" to the operator in March 2018 to supplement the current TSCA MOM contract.

69. In response to the Committee's enquiry on how each GMT member department, since the TSCA MOM contract was awarded to the current operator, monitored and reviewed the performance of the operator, **Commissioner for Transport, Director of Highways** and **Director of Electrical and Mechanical Services** provided the monitoring measures taken by their departments in their replies dated 4 July 2018 (*Appendix 29*), 26 June 2018 (*Appendix 30*) and 22 June 2018 (*Appendix 31*) respectively. All three departments had put in place a monitoring mechanism including site inspections, working meetings and assessment reports and regular reports to be submitted by the operators. TD and EMSD also stationed staff at TSCA. Surprise and non-scheduled inspections would be conducted by TD to evaluate the operator's performance and by EMSD to check the compliance of the operator with the manning level requirements of E&M staff.

70. **Mrs Sylvia LAM YU Ka-wai, Director of Architectural Services** said at the public hearings and supplemented in her letter dated 22 June 2018 (*Appendix 32*) that:

- since the commencement of the TSCA MOM contract, the operator had provided ArchSD with monthly building maintenance submissions for checking on building inspection records, proposed repairs and the corresponding progress to monitor the operator's performance; and
- ArchSD would follow up with the operator to make good the deficiencies, if spotted, and report serious maintenance issues to TD for regulatory actions under the contract. Given that the performance of

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the operator had been monitored regularly, it was unnecessary for ArchSD to have meetings with the operator and/or other relevant departments. Ad hoc meetings would be arranged if situation warranted.

71. With reference to paragraphs 4.16 to 4.19 and Table 17 in paragraph 4.26 of the Audit Report, the Committee sought explanation for TD and ArchSD not monitoring the manning level of administrative and supporting staff and building maintenance staff respectively after the commencement of the TSCA MOM contract in September 2013 and up to January 2017, and the measures taken/to be taken to ensure compliance of the operator with the manning level of the abovesaid staff.

72. **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

- for contract management, TD had all along adopted a two-pronged approach in monitoring performance of the operator, namely the input-oriented approach (e.g. the minimum manning level requirement) and performance-oriented approach (e.g. whether financial information could be submitted within the prescribed period), depending on the nature of the work;
- since commencement of the contract, TD had adopted the performance-oriented approach in monitoring the services provided by the administrative and supporting staff, including scrutinizing the human resources information, monthly performance reports or monthly financial information prepared by the operator, checking whether the information concerned was submitted on time, and conducting regular site inspections of the cleansing services and catering provisions to staff. The operator had all along been providing the required level of services in a timely manner, and no irregularity had been found;
- as the administrative and supporting staff were mainly back-up staff (e.g. clerks, chefs, accounting and administrative staff, etc.) who were not engaged in the core frontline services of the control area, there were no minimum manning level requirements for administrative and supporting staff in the tender documents. Taking into account Audit's recommendation, TD had been monitoring the operator's compliance with the manning level requirements for administrative and supporting

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staff specified in the contract by requesting the operator to submit manning information about these staff since February 2018; and

- TD would also check the operator's compliance with the manning level requirement for the administrative and supporting staff through site inspections and monthly operations reports submitted by the operator. According to the staff attendance records furnished by the operator, TD's inspection records⁷ and scrutiny of the monthly operations reports submitted by the operator since 2018, the manning level of the administrative and supporting staff had met the contract requirement since the contract came into effect.

73. **Director of Architectural Services** said at the public hearings and supplemented in her letter dated 22 June 2018 (*Appendix 32*) that:

- the operator's manning level of building maintenance staff had not been checked earlier on but ArchSD had already completed the checking exercise and informed TD of the results for follow-up actions;
- between September 2013 and January 2017, the operator's shortfall in building maintenance staff not subject to liquidated damages ("LD") was as below:
 - (a) shortfall in Building Manager from 16 February 2015 to 8 March 2015;
 - (b) shortfall in Building Services Engineer from 25 February 2014 to 29 February 2016 and 1 November 2016 to 31 January 2017; and
 - (c) shortfall in Building Services Inspector from 11 November 2014 to 1 February 2015 and 7 February 2016 to 31 January 2017; and
- ArchSD had conducted monthly check on the manning level of the operator's building maintenance staff according to its submissions of staff attendance records and salary payrolls, etc. Random site checks on building maintenance staff's attendance had been and would be carried out in the inspection of TSCA.

⁷ During the inspections held from September 2013 to January 2017, TD only recorded the manning level of operations staff.

74. **Mr TAI Tak-him, Acting Director of Electrical and Mechanical Services** said at the public hearings that the contract allowed the contractor to outsource some E&M works if it could not employ sufficient E&M staff to make up the shortfall. **Commissioner for Transport** said that despite the outsourcing, LD would still be imposed if there was a shortfall of staff subject to LD. The Committee asked Commissioner for Transport and Director of Electrical and Mechanical Services to clarify the seemingly conflicting statements.

75. **Director of Electrical and Mechanical Services** replied in his letter dated 22 June 2018 (*Appendix 31*) that according to the TSCA MOM contract, the operator was allowed to outsource part of the scheduled E&M maintenance works when needed, with the prior consent of TD and EMSD. The contract also stipulated that if the operator failed to employ the required number of E&M staff (non-key personnel), LD should be imposed to the operator. If shortfall of E&M staff still existed after outsourcing some E&M maintenance works, LD would be imposed on the operator. **Commissioner for Transport** supplemented in her letter dated 4 July 2018 (*Appendix 29*) that the operator outsourced some of the E&M repair work from October 2013 to April 2014. Such outsourced work could be used to offset LD otherwise imposed for the E&M staff shortfall during that period. As at end May 2018, except for several staff members engaged in catering services who were outsourced staff, all staff members in TSCA were directly employed by the operator.

76. Noting from Table 17 in paragraph 4.26 of the Audit Report that there were 24 E&M staff shortfall on average from January to September 2017, the Committee enquired about the reasons and whether EMSD had assessed the impact on the operation of TSCA.

77. **Acting Director of Electrical and Mechanical Services** said at the public hearings and **Director of Electrical and Mechanical Services** replied in his letter dated 22 June 2018 (*Appendix 31*) that according to the information provided by the operator, they encountered difficulties in employing E&M engineering staff due to the tight employment market resulted from a high demand for E&M staff in a number of new or on-going major infrastructure projects in recent years. The operator had been taking mitigation measures, including: (a) arranging staff to work overtime to compensate for the vacancies as far as possible; and (b) outsourcing part of the maintenance works. It was observed that the operation and performance of the E&M systems in TSCA had in general remained satisfactory throughout the MOM contract.

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78. According to paragraph 4.23 of the Audit Report, the operator was required to deploy a total of 403 staff, of which 60 staff were not subject to LD for any shortfall. The Committee enquired about the follow-up actions/sanctions that could be taken by the relevant departments if there was a shortfall in the staff that were not subject to LD.

79. **Director of Highways** said at the public hearings and supplemented in his letter dated 26 June 2018 (*Appendix 30*) that when there was a shortfall of highway maintenance staff (regardless of being subject to LD or not),⁸ HyD would urge the operator in writing to provide replacement as soon as possible and closely monitor the operator's performance to see whether it had been affected by the staff shortfall. HyD would also reflect any shortfall in highway maintenance staff as well as the performance of the operator in quarterly performance reports on the aspect of highway maintenance and inform TD accordingly.

80. **Acting Director of Electrical and Mechanical Services** said at the public hearings and **Director of Electrical and Mechanical Services** supplemented in his letter dated 22 June 2018 (*Appendix 31*) that whenever there was shortfall of E&M staff not subject to LD identified, EMSD would urge the operator to rectify the shortfall promptly. To address this issue, EMSD in collaboration with TD would study whether LD should be applied to all level of E&M staff in formulating the contract terms of the next TSCA MOM contract.

81. **Director of Architectural Services** said at the public hearings and supplemented in her letter dated 22 June 2018 (*Appendix 32*) that ArchSD had informed TD of the operator's shortfall in building maintenance staff (not subject to LD) for TD to take follow-up actions according to contract provisions. ArchSD had evaluated the performance of the operator on the aspect of building maintenance on quarterly performance reports, including any shortfall in building maintenance staff, and advised TD for compiling overall performance reports on the operator.

82. **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

⁸ There was shortfall for a Deputy Highway Maintenance Engineer (Roadwork) from 19 September to 6 November 2013 and a second Deputy Highway Maintenance Engineer (Structures) from 19 September 2013 to 11 August 2014 and from 25 April to 16 October 2016.

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- of the 403 staff on duty, 343 frontline staff were subject to LD for any shortfall, including 186 operations staff (responsible for daily operation, traffic and incident management), 34 highway maintenance staff, 122 E&M staff and 1 building maintenance staff. It was stipulated in the current contract that LD were imposed for any staff shortfall in the ranks of frontline operational staff to ensure the operator deployed sufficient frontline staff who were critical in carrying out the routine operations and maintenance duty in the control area;
- as for the remaining 60 staff not subject to LD for any shortfall, they included the principal (management and professional) staff, the supporting staff for highway maintenance and building maintenance, as well as the administrative and supporting staff (such as administrative manager, chefs and clerks, etc.);
- under the contract terms, for any reason a vacancy of the principal (management and professional) staff suddenly arose, the operator should inform TD within three working days, and employ an eligible person to fill the vacant post as soon as possible upon approval by TD. Any failure on the part of the operator to employ the above 60 staff not subject to LD for any shortfall in compliance with the staff manning level requirement stipulated in the contract also constituted a breach of the contract;
- if there was persistent shortfall in staff, the Government might impose penalties on the operator pursuant to the Tsing Sha Control Area Ordinance (Cap. 594) or the MOM contract; and
- the manning of 80 "leave relief" staff was for filling vacancies of operations and E&M staff in the AM/PM/Night shift to maintain the 24-hour TSCA operation. Whenever there was a staff shortfall in a required duty shift, the operator would suitably deploy replacement staff by deploying "leave relief". If there was still a staff shortfall, it would fill the vacancies through overtime work or acting appointment arrangements. The normal operation of TSCA had generally been maintained without being affected by staff shortfall.

83. In response to the Committee's enquiry about the sanctions against the operator's failure to meet the performance requirements/operating standards, **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

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- under sections 24 and 25 of the Tsing Sha Control Area Ordinance, if an operator was in breach of a management agreement, the relevant authority might impose, with the approval of the Chief Executive in Council, a financial penalty on the operator in accordance with the Ordinance in respect of each breach pursuant to the ordinance. Where the breach was capable of being remedied, the amount of financial penalty imposed for each breach should not exceed \$10,000 on the first occasion; if the relevant breach continued, the Government might impose a further financial penalty not exceeding \$10,000 on the operator for each day. Where the breach was not capable of being remedied, the amount of financial penalty imposed for each breach should not exceed \$20,000 on the first occasion, \$50,000 on the second occasion and \$100,000 on the third or a subsequent occasion; and
- under Clauses 91 to 93 of the TSCA MOM contract, for any fault or breach of the management contract by the operator which would cause damage to the Government, the Government might seek compensation from the operator. For any staff shortfall or failure to attain the operating standards of core services, the operator was required to pay LD to the Government. TD on two occasions claimed LD to compensate for the administrative expenses incurred by the Government due to the operator's failure to arrive at the scenes of traffic accidents on time. In serious cases which met the MOM contract's relevant provisions, such as the operator's repeated non-compliances with the contract requirements, the Government might even terminate the contract.

84. The Committee noted Commissioner for Transport's statement at the public hearings that a staff could take up the duties of two posts and this would not be included in the calculation of LD and asked for TD's explanation on this.

85. **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that at present, the operator must arrange for sufficient staff on duty in the AM/PM/Night shifts in accordance with contract requirements. A staff member on shift duty with qualifications meeting the requirements of more than one post could take up different posts in different shifts, which might also offset the relevant amount of LD. However, if any staff shortfall persisted after the doubling-up/acting arrangements, corresponding LD would be imposed on the operator.

86. The Committee was concerned that a staff member could take up duties of two posts in different shifts as it would lead to overtime work of the staff members. In this connection, the Committee enquired the number of staff of the operator who had performed overtime work and the total number of hours of overtime work performed by these staff from January to December 2017.

87. **Commissioner for Transport** provided the monthly overtime work statistics of the operator from January to December 2017 in her letter dated 4 July 2018 (*Appendix 29*). In gist, operations staff, E&M staff and highway maintenance staff all performed overtime work. The number of staff and working hours ranged from 90 to 110 and 2 182 to 6 600 for operations staff, 22 to 50 and 789 to 1 450 for E&M staff, and 8 to 33 and 84 to 696 for highway maintenance staff.

88. The Committee enquired about the reasons for not setting out a clear methodology for calculating LD in the tender documents as well as in the contracts, which had led to taking 27 months (from November 2014 to January 2017) for discussing and agreeing with the operator on the methodology.

89. **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that:

- in May 2013, after selection of the successful tenderer for the TSCA MOM contract, the Central Tender Board informed TD that sanctions should be imposed if the operator failed to comply with its committed minimum manning level, with a view to conveying a clear message that the operator had to fully comply with the contract requirements and address its inadequacies as soon as possible;
- TD then had to negotiate with the selected tenderer on the insertion of relevant clauses in the contract within a short period of time. After obtaining the agreement of the selected tenderer, the sanction clauses relating to LD for staff shortfall were incorporated into the TSCA MOM contract. Since the above recommendation by the Central Tender Board was made after the successful tenderer was selected, such clauses had not been included in the tender documents;
- given the limited time in preparing the contract clauses, only "in-principle" clauses were stipulated in the contract. In implementing the contract, TD had on a number of occasions sought

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legal advice from the Department of Justice on the interpretation of LD clauses. It also held numerous meetings with EMSD, HyD and the operator to discuss and agree on the methodology for calculating the amount of LD (e.g. how sick leave or annual leave, or outsourcing and acting appointment would be taken into account);

- in early 2017, after the methodology and details for calculating the amount of LD imposed for staff shortfall had been largely sorted out, the Government proceeded to work out the format of submitting information and develop the worksheet for checking the submitted information; and
- in May 2017, the first letter on imposing LD for staff shortfall was issued. In June 2017, TD discussed and agreed with the operator the arrangement for collecting in batches LD for the period from the commencement of contract to end 2017 by March 2018, and the operator had paid off to TD the full amount of LD on time.

90. With reference to paragraphs 4.33 and 4.34 of the Audit Report, as of December 2017, TD and EMSD had not ascertained the amount of LD for E&M staff from 1 March 2014 to 31 December 2016 and 1 October to 31 December 2017. The Committee asked for the reasons for such a delay and if remedial actions had been taken.

91. **Acting Director of Electrical and Mechanical Services** said at the public hearings and **Director of Electrical and Mechanical Services** replied in his letter dated 22 June 2018 (*Appendix 31*) that the TSCA MOM contract was the first contract of its kind to include LD provisions for the manning level. From November 2014 to January 2017, EMSD had assisted TD to seek legal advice from the Department of Justice and resolve the dispute with the operator as to how LD should be imposed, such as outsourcing to compensate for part of the E&M staff shortfall. Upon settlement of the dispute, EMSD began to calculate and provide TD with the ascertained amount of LD in batches, from May 2017 to February 2018, for the period from the commencement of the TSCA MOM contract (i.e. September 2013) to December 2017.

92. With reference to paragraphs 4.33 and 4.34 of the Audit Report, the Committee sought details of records of imposing and collecting LD from the operator

and whether TD, HyD, EMSD and ArchSD had cross-checked the accuracy of the information/records submitted by the operator in relation to the calculation of LD.

93. **Commissioner for Transport** said at the public hearings and supplemented in her letter dated 4 July 2018 (*Appendix 29*) that TD's records of LD imposed on the operator in respect of E&M amounted to about \$19.84 million for the period from September 2013 to March 2018. TD had checked all records submitted by the operator in relation to the imposition of LD, including attendance records, human resources records and staff qualification, etc., to ensure that the records were accurate and the staff on duty were qualified. In addition, TD also regularly deployed officers to conduct surprise checks to monitor and recorded the manning level of operations staff in TSCA on site.

94. **Director of Highways** said at the public hearings and supplemented in his letter dated 26 June 2018 (*Appendix 30*) that the total amount of LD payable by the operator for the shortfall of highway maintenance staff since commencement of the TSCA MOM contract was \$1.37 million and the breakdown is in *Appendix 30*. HyD had verified all relevant records provided by the operator for calculating LD in respect of the shortage of highway maintenance staff and had required the operator to provide supplementary documents when needed. HyD had also copied all correspondence regarding the shortfall of highway maintenance staff and the calculation of LD to TD for its reference.

95. **Director of Electrical and Mechanical Services** replied in his letter dated 22 June 2018 (*Appendix 31*) that EMSD had been assisting TD to review and verify the calculation of LD to be imposed on the operator due to shortfall of E&M staff by: (a) checking monthly reports, attendance records and relevant supporting documents submitted by the operator; (b) cross-checking the operator's records against EMSD's surprise check records; and (c) requesting the operator to submit supplementary information where necessary.

96. **Director of Architectural Services** said at the public hearings and supplemented in her letter dated 22 June 2018 (*Appendix 32*) that ArchSD had ascertained that there was shortfall in building maintenance staff that was subject to LD from 1 March to 14 September 2014 (about 6.5 months), and TD had collected LD of about \$0.12 million from the operator. ArchSD had checked the calculation of LD against the operator's staff attendance records and payrolls. Random site

checks on the operator staff's attendance in relation to the calculation of LD would also be carried out.

E. Conclusions and recommendations

<p>Overall comments</p>

97. The Committee:

- notes that it has been a practice for government works departments to engage external consultants in major public works contracts to provide planning, design, tender document and drawings preparation, and construction supervision services as the relevant departments might not have adequate in-house manpower resources or the necessary expertise to undertake the services;
- strongly reminds government works departments that unsatisfactory performance of consultants would have significant impact on the progress of relevant works which might cause long delays and incur additional costs substantially if subsequent rectification works were required. The relevant works departments should bear an ultimate responsibility and role to monitor the satisfactory performance of these consultants;

Monitoring the performance of consultants by the Highways Department

- expresses astonishment and grave concern that Contracts A, B and C for the construction of Sha Tin Section of Route 8 ("Sha Tin Section")⁹ were completed later than the respective original/extended contract completion dates by about 24, 15 and 3 months respectively, and their total contract expenditures (\$1.4 billion, \$2.3 billion and \$1.2 billion) were 36%, 26% and 12% higher than the respective original contract sums;

⁹ The construction of Sha Tin Section was implemented through awarding three works contracts, namely Contracts A, B and C, and a traffic control and surveillance system contract (Contract D). The design and construction supervision work of Sha Tin Section were conducted under Consultancy X (for Contracts A and B by Consultant X) and Consultancy Y (for Contract C by Consultant Y).

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- expresses astonishment and grave concern and finds it unacceptable about the Highways Department ("HyD")'s failure to properly vet the outputs and monitor the performance of Consultant X for managing Contracts A and B in the construction of Lai Chi Kok Viaduct and Eagle's Nest Tunnel ("EN Tunnel") under the Sha Tin Section project as evidenced by the following:
 - (a) for the permanent structure of Lai Chi Kok Viaduct, the construction and erection loadings did not appear to have been properly considered in the design which was undertaken by Consultant X;
 - (b) Consultant X's contract drawings only showed the use of balanced cantilever method of construction but did not indicate the need for certain requisite construction systems;
 - (c) Consultant X's response to a tender query requesting clarification of the temporary loads used in the design could lead to confusion that the construction and erection loadings had been considered in Consultant X's design. The response had been copied to HyD when issued;
 - (d) in the event, on a "without admission of liability" basis, the Government paid an extra-contractual settlement sum of \$273 million to Contractor A for settlement of all the disputes under Contract A and succeeded in recovering \$133.1 million only from Consultant X for settlement of all the disputes under Consultancy X;
 - (e) discrepancy in the thickness of smoothing shotcrete required for the tunnelling works of EN Tunnel between the contract drawing (i.e. 170 millimetres ("mm")) and the contract clause (i.e. 100 mm at the maximum) under Contract B; and
 - (f) the performing of controlled blasting for the formation of the tunnel perimeter had not been specified as a Bills of Quantities ("BQ")¹⁰ item under Contract B;

¹⁰ BQ contain estimated quantities of various works items. BQ form part of the tender documents and subsequently the contract documents after the award of a contract.

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- is unconvinced and finds it totally unacceptable by HyD's explanation at the public hearings that the above discrepancies and omissions in the tender documents and drawings for Contracts A and B were due to the voluminous tender documents and drawings having some 7 000 pages;
- strongly demands the works departments, in particular HyD, to review the existing mechanism in vetting the tender documents and consultants' outputs, including but not limited to the designs, accuracy of the tender documents and contract clauses, drawings and responses to tender queries, so that any discrepancies, omissions and irregularities could be identified in time. Consideration should also be given to exploring the use of latest and advanced information technology to assist the relevant staff and consultants in conducting the preparation, vetting and checking processes in the tendering exercises for public works projects;

Mechanism to report to the Legislative Council on claims and extra-contractual settlement for public works projects

- considers it inexplicable and unacceptable that the Legislative Council ("LegCo") has no effective means to monitor the claims and extra-contractual settlement between the relevant works departments and the contractors/consultants for public works projects, in particular for those for which no approval for cost overruns is required by LegCo. In the case of Sha Tin Section, whereas the expenditure incurred for the project was below the approved funding,¹¹ LegCo had not been informed of an extra-contractual settlement sum of \$273 million on a "without admission of liability" basis which had been agreed between HyD and Contractor A in 2012 before the relevant Director of Audit's Report ("Audit Report") was published;
- strongly demands the Development Bureau to explore setting up a mechanism through which the Finance Committee and/or other appropriate committees of LegCo should be informed about details of any extra-contractual settlement and/or other forms of settlement agreements exceeding a certain threshold sum that have been made in respect of major public works projects in order to enhance transparency and monitoring by LegCo on the public works expenditures;

¹¹ As of December 2017, the Administration had incurred around \$6.2 billion for the Sha Tin Section project, \$904.8 million (13%) below approved funding.

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Use of spare capacity of Sha Tin Section

- expresses great dissatisfaction and finds it unacceptable about the Transport Department ("TD")'s ineffective planning and subsequent efforts in using EN Tunnel and Sha Tin Heights ("STH") Tunnel to alleviate the traffic congestion at the road links between Kowloon and Sha Tin as evidenced by the following:
 - (a) as of April 2017, the average weekday traffic demand per hour for morning and afternoon peak hours for EN Tunnel and STH Tunnel were less than 80%, whereas the demand for Lion Rock Tunnel and Tate's Cairn Tunnel exceeded 120%; and
 - (b) as of December 2017, only five franchised bus routes passing through EN Tunnel and STH Tunnel provided whole-day services, whereas there were 21 and 23 franchised bus routes with whole-day services passing through Lion Rock Tunnel and Tate's Cairn Tunnel respectively. In addition, from time to time, there were requests for bus and minibus services passing through Sha Tin Section;
- notes that:
 - (a) in January 2017, TD had commenced a consultancy study on the rationalization of traffic distribution of the three road harbour crossings (i.e. Cross Harbour Tunnel, Eastern Harbour Crossing and Western Harbour Crossing) and the three land tunnels between Kowloon and Sha Tin (i.e. Lion Rock Tunnel, Tate's Cairn Tunnel, as well as EN Tunnel and STH Tunnel); and
 - (b) in 2018-2019 Bus Route Planning Programmes, TD had proposed seven improvement items for bus routes passing through Sha Tin Section, which had the support of relevant District Councils; and
- strongly urges TD to:
 - (a) consult the respective District Councils and relevant stakeholders thoroughly in advance on proposed new traffic arrangements before a major transport network and infrastructure is opened in order to ensure that these new arrangements could be implemented in a timely manner to address the needs of the local population; and

- (b) regularly review the usage of any new transport network and infrastructure and update the respective District Councils and the LegCo Panel on Transport of the usage figures. In case of persistent under-utilization, more frequent consultation with the respective District Councils and the LegCo Panel on Transport should be made on the need of additional improvement measures.

Specific comments

98. The Committee:

Administration of Contract A

- expresses astonishment and grave concern and finds it unacceptable that:
 - (a) in the construction of Lai Chi Kok Viaduct, HyD had disputes under both Contract A and Consultancy X, mainly on viaduct design issues. In the course of disputes resolution, having considered legal opinion and views of an engineering expert on the design for the permanent structure of Lai Chi Kok Viaduct, HyD noted that:
 - the construction and erection loadings did not appear to have been properly considered in the design;
 - the contract drawings only showed the use of balanced cantilever method of construction but did not indicate the need for certain requisite construction systems; and
 - Consultant X's response to a tender query requesting clarification of the temporary loads used in the design could lead to confusion that construction and erection loadings had been considered in Consultant X's design. Such confusing response to the tender query could also give rise to grounds for claims on the design for viaduct structure and erection from Contractor A;

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- (b) HyD had not sought the Financial Services and the Treasury Bureau's prior agreement to the strategy or bottom line for negotiation before discussing with Contractor A and reaching a non-committal consensus to settle all the disputes under Contract A at an extra-contractual settlement sum of \$273 million in July 2012; and
 - (c) the post-completion review for Contract A and Consultancy X was completed in January 2018, which was one year after the completion of Consultancy X and about ten years after the project had been commissioned, contrary to the guidance given in the relevant Technical Circular¹² that 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;
- notes that:
- (a) HyD will remind its staff and consultants to strictly follow the guidelines stipulated in the Structures Design Manual for Highways and Railways, including carrying out appropriate level of independent checking on the design of different categories of new highway structures and the associated modification of existing highway structures;
 - (b) Director of Highways has agreed with the Audit Commission ("Audit")'s recommendations in paragraphs 2.25 and 2.40 of the Audit Report; and
 - (c) Director of Civil Engineering and Development has agreed with Audit's recommendation in paragraph 2.26 of the Audit Report;

Administration of Contract B and Contract C

- expresses astonishment and grave concern and finds it unacceptable that:

¹² Environment, Transport and Works Bureau Technical Circular (Works) No. 26/2003 on "Post-completion Review on Major Consultancy Agreements and Major Works Contracts under Public Works Programme"

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- (a) under Contract B, there was a discrepancy in the thickness of smoothing shotcrete required for the tunnelling works of EN Tunnel between the contract drawing (i.e. 170 mm) and the contract clause (i.e. 100 mm at maximum). The 170 mm smoothing shotcrete was an omitted BQ item. In this case, HyD paid \$43.7 million to Contractor B for this omitted item;
 - (b) under Contract B, due to unclear contract clauses for measurement of tunnelling works, the performing of controlled blasting for the formation of the tunnel perimeter had not been specified as a BQ item. In the event, HyD paid \$54.6 million to Contractor B for the works item for this omitted item;
 - (c) under Contract B, total prolongation costs of \$34.5 million were awarded due to extensions of time (331 and 114 days for two sections of works respectively) for additional works at three slopes arising from actual site conditions undetected in earlier site investigations; and
 - (d) due to a processing error by the Civil Engineering and Development Department during the drafting of Contract C, two clauses mismatched, resulting in a shorter facilitation period of about 7.5 months instead of the agreed duration of 9 months. In addition, the scheduled periods of facilitation works in Contracts B, C and D also deviated from the agreed interface handover schedule;
- notes that:
- (a) HyD will continue to conduct thorough site investigations as far as practicable with a view to incorporating comprehensive and adequate information for design and tender purposes;
 - (b) Director of Highways has agreed with Audit's recommendations in paragraphs 3.18, 3.25 and 3.39 of the Audit Report; and
 - (c) Director of Civil Engineering and Development has agreed with Audit's recommendations in paragraphs 3.38 and 3.39 of the Audit Report;

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Usage and management of Sha Tin Section

- expresses great dissatisfaction and finds it unacceptable that:
 - (a) a Government Monitoring Team ("GMT"), comprising officers from TD, HyD, the Electrical and Mechanical Services Department ("EMSD") and the Architectural Services Department ("ArchSD"), is responsible for monitoring performance of the operator for the Tsing Sha Control Area ("TSCA"). However, as of December 2017, the respective monitoring roles and responsibilities among GMT members were neither specified in the management, operation and maintenance ("MOM") contract for TSCA nor documented in other records;
 - (b) as of December 2017, the manning level of administrative and supporting staff and that of building maintenance staff had not been monitored since the commencement of TSCA MOM contract in September 2013;
 - (c) as of December 2017, there was no documentation showing that HyD and ArchSD (being GMT members) had prepared reports on TSCA operator's performance under their respective purview, and that TD (being the contract administrator) had required them to provide such reports;
 - (d) it was not specified in the tender documents or TSCA MOM contract that the manning level requirement for 80 "leave relief" staff (out of the total manning level of 483 staff specified in the contract) was for mandatory compliance by operators or for reference purpose only;
 - (e) TSCA operator was not able to continuously maintain the required staff manning level since the commencement of the contract in September 2013. For the period from January to September 2017, out of the required manning level of 343 staff subject to liquidated damages ("LD") for any shortfall, there was a shortfall of about 25 staff on average (around 7% of the required level), mostly attributed to the shortfall of about 24 electrical and mechanical ("E&M") staff (around 20% of the required manning level of 122 E&M staff);

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- (f) due to unclear methodology set out in TSCA MOM contract, it took 27 months for TD to discuss and agree with the operator the methodology for calculating the amount of LD; and
 - (g) as of December 2017, for E&M staff, in respect of TSCA operator's staff shortfall for about 51.5 months (from 19 September 2013 to 31 December 2017), TD and EMSD had not yet ascertained the amount of LD for 37 months. Moreover, for building maintenance staff, information on staff shortfall remained to be checked as of December 2017 and no LD had been imposed up to December 2017;
- notes that:
- (a) TD, in collaboration with other GMT members, has consolidated a list of "GMT Members Monitoring Responsibility for TSCA", which has been attached to the current TSCA MOM contract and will also be incorporated in the next contract to be renewed in 2019;
 - (b) TD has started monitoring the operator's compliance with the manning level requirement for administrative and supporting staff as specified in TSCA MOM contract;
 - (c) HyD and ArchSD will provide quarterly assessment of TSCA operator's performance (from December 2017 onwards) on aspects under their respective purview, and provide assessment results to TD for compilation of the overall quarterly assessment reports on performance;
 - (d) TD will review whether and how to specify the manning level of "leave relief" staff and administrative and supporting staff in future TSCA MOM contracts;
 - (e) during the current TSCA MOM contract term, TD and EMSD will continue to monitor the manning level of E&M staff and take necessary actions in a timely manner;
 - (f) Commissioner for Transport has agreed with Audit's recommendations in paragraphs 4.8 and 4.36 of the Audit Report;

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- (g) Director of Electrical and Mechanical Services has agreed with Audit's recommendations relating to E&M monitoring of TSCA MOM contract in paragraph 4.36 of the Audit Report; and
- (h) Director of Highways and Director of Architectural Services have agreed with Audit's recommendation in paragraph 4.37 of the Audit Report; and
- strongly urges TD, HyD, EMSD and ArchSD to review MOM contracts and other similar contracts under their respective purview which have stipulated the manning level requirements of staff to ensure that the contractors comply with such requirements and, in cases of non-compliance, to take follow-up actions in a timely manner in order that the services will not be adversely affected.

Follow-up action

99. The Committee wishes to be kept informed of the progress made in implementing the various recommendations made by the Committee and Audit.