

For Information

Legislative Council Panel on Environmental Affairs

Sewage Services Operating Accounts Actual Outturn in 2012-13 and Projected Outturn in 2013-14

PURPOSE

This information note provides Members with an annual summary of the Sewage Services Operating Accounts (SSOA).

BACKGROUND

2. In May 2007, we obtained approval from the Legislative Council (LegCo) to increase the Sewage Charge (SC) rate by ten increments of 9.3% per annum with a view to recovering 80% of the respective operating cost by 2017-18^[1]. Throughout the ten-year period from 2008-09 to 2017-18 when the scheduled increments gradually take place, Members will be provided with annual summaries of the SSOA outturn for monitoring. This is the sixth annual summary which covers the actual outturn of SSOA in 2012-13 and the projected outturn in 2013-14^[2].

3. Trade Effluent Surcharge (TES) is applied to 27 specified trades^[3] in addition to SC. In July 2008, LegCo approved the revision of TES rates with effect from 1 August 2008 in accordance with the polluter-pays principle^[4]. This information note also gives an overview of the revenue from TES and the respective operating expenditure over the same period.

¹ In accordance with the polluter-pays principle, following the review of TES with changes as set out in Footnote 4, the average ratio for apportioning the operating expenditure of sewage services between SC and TES was adjusted from 78:22 to 85:15 with effect from 1 August 2008. With the assignment of a bigger portion of the operating expenditure to SC, the recovery target of SC for 2017-18 was subsequently revised downwards to 70%.

² Please refer to LC Papers No. CB(1)1681/08-09(01), CB(1)2376/09-10(01), CB(1)2766/10-11(01), CB(1)1792/11-12(01) and CB(1)1548/12-13(01) for the previous five annual summaries.

³ These 27 trades and their respective TES rates are specified in Schedule 1 to the Sewage Services (Trade Effluent Surcharge) Regulation (Cap. 463B).

⁴ Based on the results of effluent surveys, the TES rates of 13 trades (including the restaurants trade) were reduced on 1 August 2008 whereas the TES rates of 14 trades were increased in either one increment (on 1 August 2008) or two increments (on 1 August 2008 and 1 August 2009). Three trades were removed from the TES Scheme as their effluents were found to be not stronger than domestic sewage.

SEWAGE SERVICES OPERATING ACCOUNTS

4. A summary of the actual outturn of SSOA in 2012-13 and the projected outturn in 2013-14 with breakdowns by SC and TES is provided at Annex A.

Sewage Charge

5. The revenue from SC was \$775.6 million in 2012-13. The 10.4% year-on-year growth was primarily underpinned by the increase in SC rate from \$1.71 per cubic metre (m³) of water supplied in 2011-12 to \$1.87 per m³ in 2012-13. Within the same period, the respective operating expenditure edged up to \$1,275.3 million (+3.8% year-on-year) mainly reflecting the increase in general price levels. The operating cost recovery rate (OCR) in respect of SC is thus raised from 57.2% in 2011-12 to 60.8% in 2012-13.

6. Looking ahead, the revenue from SC is projected to grow further to \$854.9 million (+10.2% year-on-year) in 2013-14 upon the sixth increment of SC rate to \$2.05 per m³ from 1 April 2013. We also expect the respective operating expenditure to increase to \$1,313.8 million (+3.0% year-on-year) in 2013-14 in tandem with the anticipated rise in general price levels. Based on the above, the OCR in respect of SC is projected to rise further to 65.1% in 2013-14.

Trade Effluent Surcharge

7. As regards TES, the revenue increased to \$207.1 million in 2012-13 (+1.2% year-on-year) due to higher water consumption by the TES trades, whereas the respective operating expenditure for the same period expanded to \$222.7 million (+3.1% year-on-year). This leads to a drop in the OCR in respect of TES from 94.7% in 2011-12 to 93.0% in 2012-13.

8. Compared with the outturn in 2012-13, the revenue from TES is projected to be maintained at a comparable level of \$210.5 million (+1.6% year-on-year) in 2013-14, whereas the respective operating expenditure is projected to increase to \$230.7 million (+3.6% year-on-year). The OCR in respect of TES is thus expected to be 91.2% in 2013-14.

PROGRESS OF PROJECTS RELATING TO SEWAGE SERVICES

9. While the Drainage Services Department (DSD) has continued to maintain tight control on the operational costs, the rise in the operating

expenditure of SSOA is mainly due to the progress of three major infrastructural projects relating to sewage services, namely the Advance Disinfection Facilities (ADF), Stage 2A of the Harbour Area Treatment Scheme (HATS) and the Sludge Treatment Facilities (STF). Their latest position is summarised below.

Advance Disinfection Facilities

10. The ADF disinfects the treated effluent from the Stonecutters Island Sewage Treatment Works (STW) with a view to improving the water quality of western Victoria Harbour and Tsuen Wan. With the full commissioning of the facilities from 1 March 2010, water quality at the seven beaches in Tsuen Wan has seen significant improvement such that all of them have become suitable for swimming and have been re-opened in phases. Four of the beaches, namely Approach Beach, Casam Beach, Hoi Mei Wan Beach and Lido Beach, have been re-opened since June 2011. Anglers' Beach has also been re-opened since September 2013 and the remaining two beaches, namely Gemini Beaches and Ting Kau Beach have been re-opened since April 2014.

Stage 2A of the Harbour Area Treatment Scheme

11. Stage 2A of HATS serves to collect sewage generated from the northern part and south-western part of Hong Kong Island for centralised treatment at the Stonecutters Island STW. We obtained funding approval from the Finance Committee (FC) for implementing the project in two parcels at an estimated cost of \$17,199.9 million in money-of-the-day (MOD) prices. DSD has since awarded 11 out of the 12 civil engineering and electrical and mechanical works contracts for the project. In 2014, the excavation and lining works for the deep tunnels of the sewage conveyance system and the construction works for the main pumping station, other upgrading works at the Stonecutters Island STW as well as eight preliminary treatment works in the northern part and south-western part of Hong Kong Island were in full swing. The overall aim is to complete the main works by end 2014 for testing and full commissioning in 2015.

Sludge Treatment Facilities

12. The STF is a centralised solution to the anticipated increase in sewage sludge volume particularly upon the commissioning of Stage 2A of HATS. It is located in Nim Wan with a design capacity of 2 000 tonnes of sewage sludge per day. With FC's approval of \$5,154.4 million (in MOD prices) for the project, we awarded the design-build-operate contract in September 2010. Construction of the structures for the main facilities and the process plant equipment installation were substantially completed. Testing of incineration

train with sludge has commenced since mid 2014 for commissioning in phases.

Other sewerage projects

13. Apart from the three major infrastructural projects, DSD is also carrying out a number of smaller scale sewerage projects such as the upgrading and expansion of regional STWs, local sewerage improvement works and construction of public sewerage in rural areas. Among the 42 smaller scale projects ^[5], DSD has completed 15 projects since the SC review in 2007 while another 19 projects are being implemented or will commence shortly. The rest, as well as remainders of projects being implemented in phases, are at different stages of planning and preparation. Please refer to Part 2 of Annex B for their position as of July 2014.

IMPLICATIONS TO THE INCREMENT SCHEDULE

14. As indicated alongside our commitment to provide Members with annual summaries of the SSOA outturn, we would also review the schedule of increases in SC rate (i) should SSOA show that the OCRR in respect of SC has exceeded the target of 80%, or be projected to exceed this target in the following year; or (ii) should the programme of major infrastructural projects be delayed by more than one year.

15. In mid-2011, we completed a mid-term review on the schedule of increases in SC rate and concluded that the increment schedule should be kept intact for the time being. The review has taken into account the fiscal outlook of SSOA as well as relevant factors such as the status of ongoing sewerage projects and the implementation programmes of those under planning at that time. We have revisited that conclusion with due consideration of the position of various sewerage projects as of July 2014. As reported in paragraphs 11 and 12, Stage 2A of HATS has continued to achieve solid progress while the testing of incineration train with sludge of the STF has commenced for commissioning in phases. Most ongoing projects have continued to progress satisfactorily though the target completion dates of several projects have to be rescheduled due to unforeseen technical issues. As for those sewerage works with implementation timeframe still under review as of July 2011, we have

⁵ These 42 smaller scale projects refer to –

- (a) 38 projects the implications of which on the operating expenditure of SSOA have been taken into account in formulating the schedule of SC increments in 2007. A list of these projects (together with the three major infrastructural projects discussed in paragraphs 10 to 12) was provided at Annex C to LC Paper No. CB(1)1435/06-07(02); and
- (b) four other sewerage projects initiated after the review on SC.

taken forward works packages of eight of these projects that are being implemented in phases (items 8, 13, 20, 21, 28, 35, 43 and 45).

16. With the sustained momentum in the implementation of various sewerage projects, particularly both Stage 2A of HATS and the STF, the increase in the operating expenditure of SSOA is anticipated to be generally on track for a period of time. We therefore maintain our appraisal of the fiscal outlook of SSOA and consider that the conclusion reached in the mid-term review is still valid.

WAY FORWARD AND ADVICE SOUGHT

17. As Stage 2A of HATS and the STF approach their respective scheduled commissioning date, the Administration will continue to closely monitor the outturn of SSOA with attention to the actual recurrent implications of both projects. Members will be kept informed of the latest situation through our annual summaries. Meanwhile, we shall endeavour to complete ongoing projects as timely as possible. We shall also seek to commence other sewerage works under planning as soon as practicable with a view to realising early benefits to the environment by implementing them in phases where appropriate and feasible.

18. Members are invited to note the content of this information note.

Environmental Protection Department
Drainage Services Department
July 2014

Sewage Services Operating Accounts**Actual Outturn in 2012-13 and Projected Outturn in 2013-14**

| | <i>(X)</i> | | <i>(Y)</i> | | <i>(Y) - (X)</i> | |
|--|-------------------------------|------------|-------------------------------|------------|----------------------|-----------------|
| | Outturn in 2012-13 | | Outturn in 2013-14 | | Variance | |
| | <i>(Actual)</i> | | <i>(Projected)</i> | | | |
| | <i>SC</i> | <i>TES</i> | <i>SC</i> | <i>TES</i> | <i>SC</i> | <i>TES</i> |
| <i>(A)</i> Revenue (\$ million) | 775.6 | 207.1 | 854.9 | 210.5 | 79.3 | 3.4 |
| <i>(B)</i> Expenditure [#] (\$ million) | 1,275.3 | 222.7 | 1,313.8 | 230.7 | 38.5 | 8.0 |
| <i>(A) - (B)</i> Operating Deficit (\$ million) | 499.7 | 15.6 | 458.9 | 20.2 | (40.8) | 4.6 |
| <i>(A) / (B)</i> Operating Cost Recovery Rate | 60.8% | 93.0% | 65.1% | 91.2% | 4.3% point | (1.8% point) |

[#] Excluding depreciation

**Latest Position of Major Infrastructure Projects and
Other Projects Relating to Sewage Services**

(July 2014)

Part 1 Major Infrastructural Projects

| PWP Item No. | Project Title | Progress as of July 2014 |
|-------------------------|--|---|
| 1 | 341DS Harbour Area Treatment Scheme, stage 2A – upgrading of Stonecutters Island sewage treatment works and preliminary treatment works | The project was part-upgraded to Category A for implementation as 369DS – Harbour Area Treatment Scheme, stage 2A – construction of the sewage conveyance system and advance works for upgrading of Stonecutters Island sewage treatment works in June 2009, while the remaining part of 341DS was also upgraded to Category A in April 2010. Our aim is to complete the main works by end 2014 for testing and full commissioning in 2015. |
| 2 | 352DS Harbour Area Treatment Scheme, stage 2A – construction of advance disinfection facilities at Stonecutters Island sewage treatment works | The project was completed in October 2009. With full commissioning of the ADF since March 2010, there has been sustained improvement in the water quality at the seven beaches in Tsuen Wan. |
| 3 | 233DS Sludge treatment facilities | With approval by FC for upgrading the project to Category A in June 2009, we commenced the design and construction of the project in October 2010. Construction of the main facilities was substantially completed. Testing of incineration train with sludge has commenced since mid 2014 for commissioning in phases. |

Part 2 Other Projects Relating to Sewage Services

| PWP Item No. | Project Title | Progress as of July 2014 |
|--------------|--|--|
| 4 | 344DS Upgrading of Central and East Kowloon sewerage – package 1 | Both projects, together with 356DS – Upgrading of Central and East Kowloon sewerage – package 4 , were combined and re-packaged for implementation in three phases. Phases 1 and 2 have been upgraded to Category A as 367DS – Upgrading of Central and East Kowloon sewerage – phase 1 and 377DS – Upgrading of Central and East Kowloon sewerage – phase 2 . Construction of both projects is in progress. Works under 367DS have been substantially completed, except for some minor works such as the sewer laying works in Tsim Sha Tsui which have been entrusted to the Water Supplies Department to minimise nuisance to the public. The project completion date of 367DS has been rescheduled from September 2014 to December 2015 due to complicated traffic and site constraints such as the busy traffic and narrow carriageway hindering the formulation of acceptable temporary traffic arrangement for the works. The completion date of 377DS remains end December 2015. |
| 5 | 337DS Upgrading of Central and East Kowloon sewerage – packages 2 and 3 | |
| 6* | 357DS Sewage interception scheme in Kowloon City | The project was completed in July 2012. |
| 7* | 363DS Provision of interception facilities at Jordan Valley box culvert | The project was completed in June 2014. |
| 8 | 125DS Tolo Harbour sewerage of unsewered areas | The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 365DS – Tolo Harbour sewerage of unsewered areas, stage 1 phase 2C and 395DS – Tolo Harbour sewerage of unsewered areas, stage 2 phase 1 . The project completion date of 365DS has been rescheduled from February 2013 to December 2014 as more time is needed for land resumption. The project completion date for 395DS remains September 2017. |
| 9 | 222DS Tai Po sewage treatment works, stage 5 phase 1 | The project was completed in February 2010. |
| 10 | 342DS Tai Po sewage treatment works, stage 5 phase 2A – disinfection | The project was completed in March 2010. |
| 11 | 236DS Tai Po sewage treatment works, stage 5 phase 2B | The project was completed in June 2014. |

| | PWP Item No. | Project Title | Progress as of July 2014 |
|-----|-------------------------|---|---|
| 12 | 237DS | Tai Po Tai Wo Road sewage pumping station and rising mains | The project was completed in June 2013. |
| 13 | 332DS | Lam Tsuen Valley sewerage | The project is being implemented in phases. We obtained FC's approval to upgrade the project to Category A as 364DS – Lam Tsuen Valley sewerage – trunk sewers, pumping station and rising mains, 373DS – Lam Tsuen Valley sewerage, stage 1 and 332DS – Lam Tsuen Valley sewerage, stage 2 . The works under 364DS were completed in November 2012. The project completion date of 373DS has been rescheduled from August to November 2015 as more time is needed to resolve project interfacing issues and concerns of villagers on the potential nuisance arising from the construction works. The completion date of 332DS remains December 2016. |
| 14 | 338DS | Improvement and upgrading of the sewerage systems in Shatin / Ma On Shan New Town | The project was completed in May 2011. |
| 15* | 372DS | Rehabilitation and construction of trunk sewers underneath Shing Mun River Channel | Construction is in progress for completion of the project by November 2015. |
| 16 | 52DS | Ting Kau sewerage, stage 2 | The project was completed in September 2009. |
| 17 | 126DS | Sham Tseng sewerage, stage 3 | The project was completed in September 2009. |
| 18 | 358DS | Sewerage to Chuen Lung Village, Kau Wa Keng Old Village and Lo Wai | The implementation programme is under review in light of the additional time needed for further consulting certain local communities and obtaining their support. |
| 19 | 226DS | Sai Kung sewage treatment works, phase 2 upgrading | The implementation programme is under review to align with the programmes of other sewerage projects in the Port Shelter catchment. |
| 20 | 272DS | Port Shelter sewerage, stage 2 | Both projects are being implemented in phases. We first obtained FC's approval to upgrade parts of the projects to Category A as 382DS – Sewerage at Clear Water Bay Road, Pik Shui Sun Tsuen and west of Sai Kung town in June 2012. Due to higher than expected tender prices and increase in the provision for price adjustment, we further obtained FC's approval to increase the approved project estimate (APE) of the project in January 2013. The completion date has been rescheduled from August 2016 to January 2017 accordingly. |
| 21 | 273DS | Port Shelter sewerage, stage 3 | |

| PWP Item No. | Project Title | Progress as of July 2014 |
|-------------------------|---|---|
| 22 | 347DS Port Shelter sewerage, stage 3 – Sai Kung Area 4 sewerage | The project was completed in February 2011. |
| 23 | 235DS Yuen Long and Kam Tin sewerage and sewage disposal | The project is being implemented in phases. We obtained FC's approval to upgrade two parts of the project to Category A as 368DS – Yuen Long South sewerage and expansion of Ha Tsuen sewage pumping station and 376DS – Trunk sewerage at Lau Fau Shan . The completion date of 368DS has been rescheduled from October 2013 to April 2015 as more time is needed to minimise the traffic impact on local residents during construction. The completion date of 376DS remains December 2015. |
| 24 | 350DS Yuen Long and Kam Tin sewerage and sewage disposal – consultants' fees and investigations | This is a consultancy study on the detailed planning and design of the works under 235DS – Yuen Long and Kam Tin sewerage and sewage disposal (item 23). Due to the change in project scope of the remainder of 235DS , the study is still in progress and its completion is subject to the programme of the remainder of 235DS . |
| 25 | 215DS Yuen Long and Kam Tin sewerage and sewage disposal – Kam Tin trunk sewerage, phase 1 and Au Tau trunk sewers | The project was completed in February 2010. |
| 26 | 223DS Yuen Long and Kam Tin sewerage treatment upgrade – upgrading of San Wai sewage treatment works | The project will be implemented in two phases. We plan to seek FC's approval for upgrading the Phase 1 works to Category A in early 2015 with a view to starting construction by mid 2015. The implementation programme for the Phase 2 works is under review as additional time is needed to determine the proposed development in the area and the ultimate sewage treatment capacity. |
| 27 | 157DS Yuen Long and Kam Tin sewerage, stage 2 | The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support. |
| 28 | 274DS Yuen Long and Kam Tin sewerage, stage 3 | The project is being implemented in phases. We obtained FC's approval to upgrade two parts of the project to Category A as 370DS – Village sewerage at Wang Chau, Yuen Long and 384DS – Yuen Long and Kam Tin sewerage, stage 3, package 2 . Construction for 370DS was completed in October 2013 whereas construction for 384DS is in progress for completion in September 2016. |

| PWP Item No. | Project Title | Progress as of July 2014 |
|-------------------------|--|--|
| 29 | 160DS Tuen Mun sewerage, stage 1 | The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 374DS – Tuen Mun sewerage, stage 1 – village sewerage in Tsing Chuen Wai and Tuen Tsz Wai for completion by August 2014. |
| 30 | 181DS Tuen Mun sewerage, stage 2 | The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support. |
| 31 | 329DS Upgrading of Pillar Point sewage treatment works | The construction works were substantially completed in May 2014. |
| 32 | 346DS Upgrading of Tuen Mun sewerage, phase 1 | The project is being implemented in phases. We obtained FC's approval to upgrade two parts of the project to Category A as 360DS – Sewerage at Tseng Tau Chung Tsuen, Tuen Mun and 371DS – Sewerage in western Tuen Mun . The former was completed in February 2011 whereas the latter is scheduled for completion by December 2015. |
| 33 | 229DS North District and Tolo Harbour sewerage, sewage treatment and disposal – high priority works – expansion of Shek Wu Hui sewage treatment works and Ting Kok Road pumping station No. 5 | The project was completed in February 2009. |
| 34 | 348DS North District and Tolo Harbour sewerage, sewage treatment and disposal – regional sewerage works, part 1 – sewerage upgrade | Construction is in progress for completion of the project in November 2014. |
| 35 | 339DS North District sewerage, stage 1 phases 2B and 2C and stage 2 phase 1 | The project is being implemented in phases. We obtained FC's approval to upgrade five parts of the project to Category A as 359DS – North District sewerage, stage 1 phase 2B , 366DS – Kau Lung Hang sewerage – trunk sewers, pumping station and rising mains , 375DS – Sewerage in Ping Kong, Fu Tei Pai and Tai Wo , 386DS – Village Sewerage in Kau Lung Hang San Wai, Kau Lung Hang Lo Wai and Tai Hang, and southern trunk sewer between Wai Tau Tsuen and Nam Wa Po and 396DS – Sewerage in Nam Wa Po and Wai Tau Tsuen . The works under 359DS and 366DS were completed in January 2011 and December 2012 respectively, whereas those under 375DS , 386DS and 396DS are scheduled for completion by November 2015, December 2016 and September 2017 respectively. |

| PWP Item No. | Project Title | Progress as of July 2014 |
|-------------------------|---|--|
| 36 | 345DS North District sewerage, stage 2 part 2A | The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 378DS – North District sewerage, stage 2 part 2A – Pak Hok Lam trunk sewer and Sha Tau Kok village sewerage . The works are scheduled for completion in August 2016. |
| 37 | 203DS North District sewerage, stage 2 part 2B | The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support. |
| 38 | 211DS Outlying Islands sewerage, stage 1 phase 2 – upgrading of Peng Chau sewage treatment works | The project was completed in March 2008. |
| 39 | 230DS Outlying Islands sewerage, stage 1 phase 1 part 2 – Yung Shue Wan sewerage, sewage treatment works and outfall | We first obtained FC's approval to upgrade both projects to Category A in November 2007. Part of the sewerage works has been completed while, on the other hand, DSD was required to re-tender the works contract for construction of the STWs as the first tendering exercise was unsuccessful. With FC's approval to increase the APE of both projects, DSD has commenced construction of the remaining works. The construction works of 230DS were substantially completed in May 2014. The completion date of 234DS has been rescheduled from June to October 2014 due to inclement weather. |
| 40 | 234DS Outlying Islands sewerage, stage 1 phase 2 – Sok Kwu Wan sewage collection, treatment and disposal facilities | |
| 41* | 331DS Outlying Islands sewerage, stage 2 – South Lantau sewerage works | We obtained FC's approval to upgrade part of the project as 385DS – Outlying Islands sewerage, stage 2 – South Lantau sewerage works – consultant's detailed design fees to Category A in June 2012. Site investigation and design are in progress for completion by September 2015. |
| 42 | 343DS Outlying Islands sewerage, stage 2 – Peng Chau village sewerage phase 2 | Upon completion of the remaining statutory procedures and preparation, we shall seek FC's approval for upgrading the project to Category A. |
| 43 | 353DS Outlying Islands sewerage, stage 2 – upgrading of Mui Wo village sewerage phase 2 and Mui Wo sewage treatment works | The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 387DS – Upgrading of Mui Wo sewage treatment works and sewerage at Mui Wo town centre and Wang Tong for completion by August 2017. |
| 44 | 354DS Outlying Islands sewerage, stage 2 – upgrading of Cheung Chau and Tai O sewage collection, treatment and disposal facilities | The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support. |

| PWP Item No. | Project Title | Progress as of July 2014 |
|-----------------|--|--|
| 45 | 355DS Outlying Islands sewerage, stage 2 – Lamma village sewerage phase 2 | The project is being implemented in phases. We obtained FC’s approval to upgrade part of the project to Category A as 397DS – Outlying Islands sewerage, stage 2 – Lamma village sewerage phase 2, package 1 for completion by July 2018. |

* These projects are initiated after the review of SC in 2007. In other words, they have *not* been included under the list of major infrastructural and other projects relating to sewage services for the purpose of determining SC increment levels at that time.