

For Information

**Legislative Council
Panel on Environmental Affairs**

**Sewage Services Operating Accounts
Actual Outturn in 2010-11 and Projected Outturn in 2011-12**

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 2017-18¹. 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 fourth annual summary which covers the actual outturn of SSOA in 2010-11 and the projected outturn in 2011-12².

3. Trade Effluent Surcharge (TES) is applied to 27 specified trades³ in addition to SC. In July 2008, LegCo approved the revision of TES rates with effect from 1 August 2008 in accordance with the

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) and CB(1)2766/10-11(01) for the previous three 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).

polluter-pays principle⁴. This information note also gives an overview of the revenue from TES and the respective operating expenditure over the same period.

SEWAGE SERVICES OPERATING ACCOUNTS

4. A summary of the actual outturn of SSOA in 2010-11 and the projected outturn in 2011-12 with breakdowns by SC and TES is provided at Annex A.

Sewage Charge

5. The revenue from SC was \$638.8 million in 2010-11. The 9.5% year-on-year growth was primarily underpinned by the increase in SC rate from \$1.43 per cubic metre (m³) of water supplied in 2009-10 to \$1.57 per m³ in 2010-11. Within the same period, the respective operating expenditure edged up to \$1,164.7 million (+1.9% year-on-year) largely due to the full-year effect of the commissioning of the Advance Disinfection Facilities (ADF) at the Stonecutters Island Sewage Treatment Works (STW) since March 2010. The operating cost recovery rate (OCR) in respect of SC is thus raised from 51.0% in 2009-10 to 54.8% in 2010-11.

6. Looking ahead, the revenue from SC is projected to grow further to \$702.4 million (+10.0% year-on-year) in 2011-12 upon the fourth increment of SC rate to \$1.71 per m³ from 1 April 2011. We also expect the respective operating expenditure to increase to \$1,237.5 million (+6.3% year-on-year) in 2011-12 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 56.8% in 2011-12.

Trade Effluent Surcharge

7. As regards TES, the revenue increased to \$201.0 million in 2010-11 (+4.8% year-on-year) due to higher water consumption by the TES trades, whereas the respective operating expenditure for the same period expanded slightly to \$202.1 million (+1.6% year-on-year). This

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.

leads to overall improvement in the OCRR in respect of TES from 96.4% in 2009-10 to 99.5% in 2010-11.

8. Compared with the outturn in 2010-11, the revenue from TES is projected to be maintained at a comparable level of \$202.6 million (+0.8% year-on-year) in 2011-12, whereas the respective operating expenditure is projected to increase to \$217.9 million (+7.8% year-on-year). The OCRR in respect of TES is thus expected to be 93.0% in 2011-12.

PROGRESS OF PROJECTS RELATING TO SEWAGE SERVICES

9. While 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 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 STW with a view to improving the water quality of western Victoria Harbour and Tsuen Wan ahead of time. 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. Four of the beaches, namely Approach Beach, Casam Beach, Hoi Mei Wan Beach and Lido Beach, were re-opened on 15 June 2011. Improvement works to the facilities at the remaining three beaches, namely Anglers' Beach, Gemini Beaches and Ting Kau Beach, are being carried out with a view to re-opening them for public use in the 2013 bathing season.

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 ten of the 12 civil engineering and electrical and mechanical works contracts for the

project. In the first quarter of 2012, construction of vertical shafts and excavation works for the deep tunnels of the sewage conveyance system were in full swing, whereas civil works for the main pumping station at the Stonecutters Island STW were also in progress. The overall aim is to complete the construction works within 2014.

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. Site formation, piling and substructure works have been substantially completed and some major process plants and equipment are being installed. We expect that the STF will be ready for commissioning by November 2013.

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 projects⁵, DSD has completed nine projects since the SC review in 2007 while another 24 projects are being implemented or will commence shortly upon funding approval by FC. 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 March 2012.

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

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.

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 or other projects relating to sewage services 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 March 2012. As reported in paragraphs 11 and 12, Stage 2A of HATS has continued to achieve solid progress while the STF is expected to commence operation next year. Except for two local sewerage projects (items 12 and 34 in Annex B) that have encountered unforeseen technical issues and one village sewerage project (item 36) that needs to be re-tendered, most ongoing projects have continued to progress satisfactorily. As for sewerage works with implementation timeframes still under review as of July 2011, we shall seek to embark on three of these projects (items 20, 21 and 43) and take forward subsequent works packages of another three that are being implemented in phases (items 13, 28 and 35) later this year. Subject to funding approval by FC, we also intend to initiate one new project (item 41) for carrying out the detailed design of South Lantau sewerage shortly.

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
May 2012

Annex A

Sewage Services Operating Accounts

Actual Outturn in 2010-11 and Projected Outturn in 2011-12

	(X)		(Y)		(Y) - (X)	
	Outturn in 2010-11		Outturn in 2011-12		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>
(A) Revenue (\$ million)	638.8	201.0	702.4	202.6	63.6	1.6
(B) Expenditure [#] (\$ million)	1,164.7	202.1	1,237.5	217.9	72.8	15.8
(A) - (B) Operating Deficit (\$ million)	525.9	1.1	535.1	15.3	9.2	14.2
(A) / (B) Cost Recovery Rate	54.8%	99.5%	56.8%	93.0%	2.0% point	(6.5% point)

[#] Excluding depreciation

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

(March 2012)

Part 1 Major Infrastructural Projects

PWP Item No.	Project Title	Progress as of March 2012
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 construction works by December 2014.
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 have commenced the design and construction of the project in October 2010. Construction is in progress for commissioning by November 2013.

Part 2 Other Projects Relating to Sewage Services

PWP Item No.		Project Title	Progress as of March 2012
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 for completion by July 2012 and December 2015 respectively. The project duration of 367DS has been extended by one month to compensate for on-site circumstances (such as inclement weather).
5	337DS	Upgrading of Central and East Kowloon sewerage – packages 2 and 3	
6*	357DS	Sewage interception scheme in Kowloon City	Construction is in progress for completion of the project by July 2012.
7*	363DS	Provision of interception facilities at Jordan Valley box culvert	Construction is in progress for completion of the project by 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 for completion by February 2013.
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	Construction is in progress for completion of the project by September 2013.
12	237DS	Tai Po Tai Wo Road sewage pumping station and rising mains	Construction is in progress with construction works for the twin rising mains at Ting Kok Road to take longer than expected due to interfacing issues with other projects and the need to carry out additional works for overcoming site conflict with an existing footbridge foundation. The completion date has been rescheduled from December 2011 to December 2012 accordingly.

PWP Item No.	Project Title	Progress as of March 2012
13	332DS Lam Tsuen Valley sewerage	The project is being implemented in phases. We obtained FC's approval to upgrade two parts of the project to Category A as 364DS – Lam Tsuen Valley sewerage – trunk sewers, pumping station and rising mains and 373DS – Lam Tsuen Valley sewerage, stage 1 for completion by September 2012 and August 2015 respectively. Upon completion of the remaining statutory procedures and preparation, we shall seek FC's approval for upgrading Lam Tsuen Valley sewerage, stage 2 to Category A.
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 with a view to re-packaging part of the works for early commencement 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 will be implemented in phases. Subject to FC's approval, we shall part-upgrade both 272DS and 273DS to Category A collectively as 382DS – Sewerage at Clear Water Bay Road, Pik Shui Sun Tsuen and west of Sai Kung Town in June 2012 for completion by August 2016.
21	273DS Port Shelter sewerage, stage 3	
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 for completion by October 2013 and December 2015 respectively.

PWP Item No.	Project Title	Progress as of March 2012
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). Subject to the programme of the remainder of 235DS , the study is anticipated to be completed by February 2013.
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 implementation programme is under review in light of a change in sewage flow build-up and the additional time needed for obtaining support from the local communities.
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 part of the project to Category A as 370DS – Village sewerage at Wang Chau of Yuen Long for completion by June 2013. Subject to FC’s approval, we shall upgrade another part of the project as 384DS – Yuen Long and Kam Tin sewerage, stage 3 package 2 to Category A in July 2012 for completion by July 2016.
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	With FC’s approval of increase in the approved project estimate (APE), we have awarded the design-build-operate contract for upgrading the STW in July 2010 for completion of the construction works by November 2013.

PWP Item No.	Project Title	Progress as of March 2012
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	DSD has commenced construction subsequent to FC's approval for upgrading the project to Category A. The completion timeframe has been further re-scheduled from July 2014 to November 2014 as more time is needed to resolve the interfacing issue with water mains replacement and rehabilitation works in progress.
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 three 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 and 375DS – Sewerage in Ping Kong, Fu Tei Pai and Tai Wo . The works under 359DS were completed in January 2011 whereas those for 366DS and 375DS are scheduled for completion by September 2012 and November 2015 respectively. Subject to FC's approval, we shall upgrade the fourth part of the project as 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 to Category A in May 2012 for completion by December 2016.
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 contracts have to be re-tendered as the first tendering exercise was unsuccessful. The completion timeframe has been rescheduled from December 2015 to September 2016 accordingly.
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.

	PWP Item No.	Project Title	Progress as of March 2012
	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 for increasing the APE of both projects, DSD has commenced construction of the remaining works for completion of both projects by February 2014.
	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	Subject to FC's approval, we shall 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 for completion of detailed design by September 2015.
	42	343DS Outlying Islands sewerage, stage 2 – Peng Chau village sewerage phase 2	The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support.
	43	353DS Outlying Islands sewerage, stage 2 – upgrading of Mui Wo village sewerage phase 2 and Mui Wo sewage treatment works	The project will be implemented in phases. Subject to FC's approval, we shall 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 in May 2012 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.
	45	355DS Outlying Islands sewerage, stage 2 – Lamma village sewerage phase 2	The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support.

* 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.