立法會
Legislative Council

LC Paper No. CB(1) 547/02-03
(These minutes have been seen by the Administration)

Ref : CB1/PL/EA/1

Panel on Environmental Affairs

Minutes of meeting held on Monday, 25 November 2002, at 2:30 pm in Conference Room A of the Legislative Council Building

Members present	**:**	Hon CHOY So-yuk (Chairman) Hon Cyd HO Sau-lan (Deputy Chairman) Hon Martin LEE Chu-ming, SC, JP Hon SIN Chung-kai Hon LAU Kong-wah Hon Miriam LAU Kin-yee, JP Dr Hon LAW Chi-kwong, JP Hon Henry WU King-cheong, BBS, JP Dr Hon LO Wing-lok Hon Audrey EU Yuet-mee, SC, JP
Members absent	**:**	Dr Hon David CHU Yu-lin, JP Ir Dr Hon Raymond HO Chung-tai, JP Hon WONG Yung-kan Hon Emily LAU Wai-hing, JP Hon LAU Ping-cheung
Attendance by invitation	**:**	**For item IV** Environment, Transport and Works Bureau Mr Donald TONG Deputy Secretary (Environment)1 Mr Raistlin LAU Principal Assistant Secretary (Environment)1

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Environmental Protection Department

Mr Benny WONG
Assistant Director (Waste and Water)

Drainage Services Department

Mr S K AGGARWAL
Assistant Director (Electrical and Mechanical)

Mr W W CHUI
Chief Engineer (Harbour Area Treatment Scheme)

For item V

Environment, Transport and Works Bureau

Mr Donald TONG
Deputy Secretary (Environment)1

Mr Raistlin LAU
Principal Assistant Secretary (Environment)1

Environmental Protection Department

Mr WONG Wai Hong, Sam
Principal Environmental Protection Officer/Territory North

Civil Engineering Department

Mr LOO Khim Chung, Anthony
Chief Engineer (Technical Services)

Mr LI Kam Sang
Senior Engineer (Projects 2)

Clerk in attendance : Miss Becky YU
Chief Assistant Secretary (1)1

Staff in attendance : Mrs Mary TANG
Senior Assistant Secretary (1)2

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I. Confirmation of minutes

(LC Paper No. CB(1) 328/02-03 — Minutes of the meeting held on 31 October 2002)

The minutes of the meeting held on 31 October 2002 were confirmed.

II. Information paper issued since last meeting

2. Members noted the following information papers which had been issued since last meeting -

LC Paper No. CB(1) 200/02-03	—	An article from the Friends of the Earth supporting the motion debate on "Renewable Energy" carried by the Legislative Council on 31 October 2002
LC Paper No. CB(1) 341/02-03(01)	—	Proposed creation of a permanent directorate post as Administrative Assistant to the Secretary for the Environment, Transport and Works

3. Members agreed that the proposal as set out at LC Paper No. CB(1) 341/02-03(01) need not be discussed by the Panel.

III. Items for discussion at the next meeting

(LC Paper No. CB(1) 330/02-03(01) — List of follow-up actions
LC Paper No. CB(1) 330/02-03(02) — List of outstanding items for discussion)

4. Members agreed to discuss the following items at the next meeting scheduled for Friday, 20 December 2002, at 8:30 am -

(a) District cooling system in South East Kowloon Development; and

(b) Construction and demolition materials.

5. It was also agreed that a joint meeting with the Panel on Transport would be held on Tuesday, 14 January 2003, at 10:45 am to discuss the measures to abate traffic noise.

(*Post-meeting note*: With the concurrence of the Chairmen of both Panels, the joint meeting had been rescheduled for 23 January 2003, at 4:30 pm.)

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IV. Second progress report on the trials and studies for Harbour Area Treatment Scheme

(LC Paper No. CB(1) 330/02-03(03) — Background brief prepared by the Legislative Council Secretariat

LC Paper No. CB(1) 330/02-03(04) — Paper provided by the Administration)

6. The Deputy Secretary for the Environment, Transport and Works (DSETW) advised that the various trials and studies undertaken to ascertain the feasibility of compact sewage treatment technologies and options for implementation of further stages of the Harbour Area Treatment Scheme (HATS) proposed by the International Review Panel (IRP) were progressing on schedule and expected to be completed by late 2003. The Assistant Director of Environmental Protection (Waste and Water) (ADEP(WW)) briefed members on the progress of the trials and studies by highlighting the salient points in the Administration's information paper (LC Paper No. CB(1) 330/02-03(04)).

Compact sewage treatment technology pilot plant trials

7. The Chairman sought elaboration on the performance of Biological Aerated Filter (BAF) and non-BAF technologies. The Assistant Director of Drainage Services (Electrical and Mechanical) (ADDS(EM)) advised that the Drainage Services Department had awarded three trial contracts to three different contractors in December 2001, with two employing different designs of the BAF technology and one employing Submerged Aerated Filter (SAF) plus denitrification technology. Both BAF contractors had tried more than one configuration for their pilot plants. The biological process of the first configuration had stabilized with both nitrification and denitrification achieved and the contractors were proceeding with the trials of the second configuration. The pilot plants had been operating at 60% to 80% of the designed flow and thus far, the trials for BAF technology had been very satisfactory. On the other hand, the SAF plus denitrification pilot plant had to re-establish the nitrification process due to poor media quality. There were also some discrete occurrences of mechanical equipment failure after replacement of the media, which affected the effluent quality. Apart from this, both the nitrification and denitrification processes were performing satisfactory. The contractor still had about three months to prove the viability of the SAF plus denitrification technology.

8. Given that the inflow had undergone chemically enhanced primary treatment (CEPT) where ferric chloride was added, the Chairman enquired whether problems of excessive sludge and blockage had occurred in the treatment process of the BAF pilot plants. She expressed concern about the additional cost incurred from removing the blockage and the need for backwash if the BAF technology were to be implemented on full scale at the Stonecutters Island Sewage Treatment Works (SCISTW). ADDS(EM) advised that according to the service providers, there would be more sludge during the summer because of more bacteria due to the high temperature in Hong Kong. The

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total sludge production from the BAF pilot plant indicated an increase of approximately 20% over the sludge generated from CEPT process. The reactors had to be washed once every day instead of once every three or four days as in the case of BAF plants in Europe. It was expected that in addition to 600 tonnes sludge generated from Stage I of the HATS flow every day, 120 tonnes would be arising from the BAF treatment. This was considered acceptable as sludge production was an inevitable part of the secondary treatment process. He pointed out that the pilot plants were not producing more sludge than expected but were largely in line with the estimation. DSETW added that the main purpose of the trials and studies was to assess the technical feasibility of the compact sewage treatment technologies and the cost implications if these technologies were to be implemented on full scale. An interim report had been provided to the Camp Dresser & McKee International Inc. (CDM) which was appointed to verify the environmental and engineering feasibility of the various IRP options for the development of further stages of HATS. CDM would incorporate the outcome of the trials and studies in its final report.

9. Noting that members were not able to attend the site visit to the pilot plants originally scheduled for 19 November 2002 to observe the progress of the trials and studies, the Principal Assistant Secretary for the Environment, Transport and Works (PAS/ETW) said that another visit could be arranged if members so wished whereby Professor Howard HUANG of the Hong Kong University of Science and Technology, the Independent Checker of the trials, could make a presentation on the latest development. Apart from the sludge production issue, which was a necessary part of the treatment process, the trials and studies had been progressing satisfactorily.

10. The Chairman remained concerned about the cost implications of the BAF technology and whether this was the most suitable technology to be adopted in Hong Kong. She considered that to enable a fair comparison, more details on the costs and operation of both the BAF and SAF plus denitrification technologies should be made available before launching of the publicity programmes on the HATS project. DSETW clarified that the publicity programmes were meant to enhance public understanding of the purpose and progress of HATS as well as to pave the way for public consultation on the way forward. The Administration had no intention to recommend the use of any treatment technologies which were still under trial. Although the SAF plus denitrification technology had experienced some initial difficulties, it would be premature to draw conclusion on its feasibility as the trial would continue for another three months. A HATS monitoring group had been established to monitor the progress of the trials and studies and would examine the cost implications of different options. Information on the operating cost and the capital investment of the different treatment options would be made available to the public upon completion of the trials and studies.

11. Given the potentially high costs of BAF technology and the non-satisfactory performance of SAF plus denitrification technology, the Chairman enquired if there were other alternative technologies that could be adopted. She also questioned the propriety of adhering to the IRP recommendations to centralize treatment at SCISTW

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if the compact treatment technologies turned out to be too costly. In reply, DSETW considered it premature to comment on the success or failure of the treatment technologies at this stage as the trials were still underway. Apart from centralized treatment at SCISTW, IRP had also recommended decentralized treatment at Pokfulam, North Point and Lamma Island. He stressed that the trials were meant to test the options proposed by IRP, but the Administration was not bound by IRP's recommendations. If it turned out that the costs of compact treatment technologies were unacceptable, consideration could be given to exploring alternatives outside the scope of IRP's recommendations. He however pointed out that it was a recognized fact that secondary treatment processes, including BAF, would have much higher operating cost than primary or CEPT processes because of higher power consumption due to aeration and backwash requirements. The Chairman remarked that the use of CEPT as primary treatment had indeed limited the scope of HATS. She considered that further consultation on the choice of options should be made. While agreeing on the need for consultation, DSETW clarified that CEPT was used as a basis because SCISTW was so equipped and the treatment was performing extremely satisfactorily.

Study on procurement options

12. Mr SIN Chung-kai asked if there was any objective standard to facilitate public understanding of the effectiveness of treatment technologies given that a large amount of money had been spent on the trials and studies. Since the results of the trials might not necessarily reflect the actual operation of the technology in the event of full-scale implementation, he questioned whether it was appropriate to specify the technology to be adopted in the future contract. To this end, consideration should be given to using contract arrangement to set out the effluent standards to be achieved, without specifying the type of technology to be adopted.

13. In response, DSETW agreed that more layman terms should be used in consulting the public on the choice of treatment options. Indicators such as oxygen and bacteria content of the receiving waters would be provided in the consultation document. As regards procurement options, DSETW advised that a consultancy study was underway to review possible procurement options and to develop the most efficient and effective contractual arrangement for the implementation of further stages of HATS. ADEP(WW) also affirmed that all forms of contract arrangement, including Design, Build, Operate (DBO) contracts which set out the effluent standards to be achieved without specifying the type of technology, would be considered in the study. In fact, such DBO had been adopted in dealing with contracts for waste facilities. The ability to achieve the desired water quality objective would be one of the major considerations in the choice of procurement. The outcome of the trials would provide a useful reference for future tenderers of the HATS project.

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V. Environmental improvement of Shing Mun River

(LC Paper No. CB(1) 330/02-03(05) — Paper provided by the Administration)

14. DSETW advised that Stage 1 works of the project "Environmental Improvement of Shing Mun River (the River)" was progressing satisfactorily and would be completed in end 2002 as scheduled. The Administration would like to seek members' support for Stage 2 works of the River. Subject to members' view, the relevant proposal would be submitted to the Public Works Subcommittee for consideration in due course. The Senior Engineer (Project 2) (SE(P2)) then gave a presentation on Stages 1 and 2 improvement works.

15. Mr SIN Chung-kai asked if the water quality of the River, after completion of Stages 1 and 2 improvement works, could be able to meet the required standard for hosting of international rowing competition. The Principal Environmental Protection Officer/Territory North (PEPO/TN) said that rowing and other water sports had been taking place in the River and more activities were expected to be held with further improvements under Stage 2. In the event that rowing competition was to be held, suitable showering facilities would need to be installed. Swimming was however not recommended in view of the existing levels of E Coli. Ms Miriam LAU enquired if rowing of sampans, which used to be a common activity in the past, would be allowed in the River for the enjoyment of local residents. DSETW undertook to relay Ms LAU's request to the Leisure and Cultural Services Department for consideration and necessary action.

16. Mr Henry WU questioned the need for longer completion time for Stage 2 given its smaller scale as compared to Stage 1. He was concerned about the impact of the works on the Shatin community. The Chief Engineer (Technical Services) (CE(TS)) advised that 22 and 19 hectares of the riverbed would be subject to bioremediation treatment and 160,000 and 110,000 cubic metres of sediments would be dredged under Stages 1 and 2 improvement works respectively. Stage 1 would take 21 months to complete whereas Stage 2 would take over three years. Majority of the Stage 2 improvement works would be completed in the first 18 months. The remaining 18 months would be mainly for monitoring the long-term effectiveness of the improvement works.

17. Dr LO Wing-lok enquired if the bioremediation treatment and dredging works would be an ongoing process in the event of continuous pollution of sediment resulting from added discharge. SE(P2) explained that the purpose of bioremediation was to help reduce the sulphide content, which was the source of the obnoxious odour, of the organic pollutants. The process involved the injection of chemicals (specially designed oxidants) into the sediments at the riverbed. Micro-organisms in the River would then utilize the chemicals to convert organic matter within the sediments into harmless natural materials, such as carbon dioxide and water, thereby improving the quality of sediments to allow a more prosperous growth of bacteria for further aerobic decomposition of organic polluting contents. It was expected that with the

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prevention of discharge of new pollutants into the River, no further bioremediation works would be required. PEPO(TN) added that effort was being made to provide a proper sewerage network with a view to controlling pollution at source. The Administration would continue to closely monitor the situation and report to the District Council concerned.

18. Noting that the organic pollutants discharged into the River had been reduced to 550 kilogrammes per day, Mr LAU Kong-wah asked if the water quality of the River could be upgraded from the existing rating of "good" to "very good" upon completion of Stage 2 in 2006 and the phased provision of a sewerage network for the unsewered villages in the River catchment area. He also pointed to the need to ensure that the improvement works were sustainable. PEPO/TN said that "Biological Oxygen Demand" was one of the parameters for assessing water quality. Since pollutants were still being discharged into the River, it would take more time and resources before the rating of water quality could be upgraded to "very good". It was hoped that with the concerted efforts of the Food and Environmental Hygiene Department and the Environmental Protection Department in controlling pollution at source and stepping up enforcement against illegal discharges into the River catchment area, the water quality could be further improved.

19. Mr LAU opined that the money and efforts put in Stages 1 and 2 improvements works of the River would be futile if the water quality could not be upgraded to "very good". PEPO/TN clarified that the purpose of Stages 1 and 2 improvements works was to tackle the problem of odour arising from sediments at the River. To improve the water quality, it was necessary to stop indiscriminate discharge through the phased implementation of the sewerage connection programme for the unsewered villages. Mr LAU agreed that with the substantial reduction in industrial, commercial and livestock discharges, the only major source of pollution was from domestic discharges. He then enquired about the time table for the sewerage connection programme. PEPO/TN said that the first phase of the sewerage connection programme associated with the River catchment area would be completed by early 2004. As a detailed study for the second stage of the programme had yet to be finalised, a definite schedule was not available. Mr LAU cautioned that if the sewerage connection programme did not tie in with the completion of Stage 2 improvement works in June 2006, pollution from domestic discharges would continue and the needed improvement in water quality could not be achieved. DSETW advised that efforts would be made to reduce the pollution load from unsewered villages through the sewerage works programme.

20. As regards sustainability of the improvement works, CE(TS) said that this would require co-operation from the local community in preserving the improved environment. A more long-term plan would be introduced to monitor the sediment and water quality of the River following the bioremediation works under Stage 2. To facilitate members' understanding, Mr LAU considered it necessary for the

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Administration to include in the paper to be submitted to the Public Works Subcommittee in January 2003 information on -

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(a) time-table of the sewerage connection programme for the unsewered villages;

(b) need for a study on sustainability of improvement in the water quality of the River; and

(c) time required to upgrade the rating of water quality of the River from "good" to "very good".

At the request of the Chairman and Dr LO Wing-lok, the Administration would also include in the paper statistics on the estimated reduction in pollution load resulting from the phased implementation of sewerage network for unsewered villages.

VI. Any other business

21. There being no other business, the meeting ended at 4:30 pm.

Council Business Division 1
Legislative Council Secretariat
19 December 2002