

**立法會**  
**Legislative Council**

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LC Paper No. CB(1)1747/98-99

(These minutes have been  
seen by the Administration)

**LegCo Panel on Environmental Affairs**

**Minutes of meeting**  
**held on Friday, 11 June 1999, at 10:45 am**  
**in Conference Room A of the Legislative Council Building**

- Members present** : Hon Christine LOH (Chairman)  
Hon HUI Cheung-ching (Deputy Chairman)  
Dr Hon Raymond HO Chung-tai, JP  
Prof Hon NG Ching-fai  
Hon Bernard CHAN  
Hon CHAN Wing-chan  
Dr Hon LEONG Che-hung, JP  
Hon Mrs Sophie LEUNG LAU Yau-fun, JP  
Hon WONG Yung-kan  
Hon YEUNG Yiu-chung  
Hon LAU Kong-wah  
Hon Mrs Miriam LAU Kin-yee, JP  
Hon CHOY So-yuk  
Hon LAW Chi-kwong, JP
- Non-Panel members attending** : Hon LEE Wing-tat  
Hon Martin LEE Chu-ming, SC, JP
- Public officers attending** : **For item IV**  
  
Mr Steve BARCLAY  
Principal Assistant Secretary for Planning, Environment  
and Lands (Environment 2)  
  
Mr LO Kam-yan, Anthony  
Assistant Secretary for Planning, Environment and Lands  
(Environment)  
Mr KO Wing-hon

Assistant Director (Civil)/Port  
Civil Engineering Department

Mr CHAN Chi-yan  
Chief Engineer/Port Works  
Civil Engineering Department

Mr HO Ka-keung  
Senior Engineer/Public Filling Strategy  
Civil Engineering Department

**For items V and VI**

Mr Danny TSUI  
Principal Assistant Secretary for Planning,  
Environment and Lands (Environment 3)

Mr George LAI  
Assistant Director/ Projects & Development  
Drainage Services Department

Mr W T YEUNG  
Chief Engineer/Consultants Management  
Drainage Services Department

Mr H K TUNG  
Senior Engineer/Consultants Management  
Drainage Services Department

Mr Edmond HO  
Principal Environmental Protection Officer  
(Sewage Infrastructure Planning)  
Environmental Protection Department

**Attendance by :  
invitation**

**For item IV**

Mr Barrie COOK  
Chairman of the Waste Reduction Committee

Mr Derek ZEN

Chairman of the Waste Reduction Task Force for the  
Construction Industry  
Member of the Waste Reduction Committee

Dr C S POON  
Member of the Waste Reduction Committee

**Clerk in attendance** : Miss Odelia LEUNG, Chief Assistant Secretary (1)1

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

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**I Confirmation of minutes of meeting and endorsement of Panel report**  
(LC Paper Nos. CB(1)1207, 1299, 1389 and 1446/98-99)

The minutes of the joint meeting with Planning, Lands and Works Panel on 5 February 1999 and of the regular meetings on 5 March and 4 May 1999 were confirmed. Members endorsed the report on the work of the Environmental Affairs Panel for the current session and authorized the Chairman to revise the report in the light of discussions at this and further meetings before presentation to the Council on 30 June 1999.

**II Date of next meeting and items for discussion**

2. Members agreed to discuss the quality of Dongjiang water at the next regular meeting scheduled for 2 July 1999. They also agreed that Dr HO Kin-chung of the Open University of Hong Kong would be invited to the meeting to explain his study on the quality of Dongjiang water.

3. Referring to the subject of conservation strategy for Lantau on the list of outstanding items for discussion, Mrs Miriam LAU suggested and members agreed that the Tai Ho Road project should best be discussed jointly with the Transport Panel in July 1999. Miss CHOY So-yuk suggested that the Tung Chung Road project should also be included for discussion.

(*Post meeting note* : The Tai Ho Road project and the Tung Chung Road project would be discussed under agenda item "Transport network in Lantau" at the meeting of the Transport Panel on 28 July 1999 and members of the Environmental Affairs Panel were invited to attend.)

4. Mr LAU Kong-wah suggested that the Administration be invited to brief members on the use of electric vehicles. Mrs Miriam LAU said that the proposal of using electric vehicles was very preliminary and would need to be further studied by the Administration and the transport trade. Noting that the Administration announced a package of proposals to improve air quality on 5 June 1999, members agreed that as the first step, the Administration should be invited to brief the Panel on the subject on 2 July 1999 and that discussion on use of electric vehicles and other environmental means of transport should be discussed at a later stage. To provide sufficient time for discussion, members agreed that the meeting on 2 July 1999 should start at 10:30 am and end at 1:00 pm.

5. The Chairman reminded members that the joint meeting with the Transport Panel to discuss the Liquefied Petroleum Gas Taxi Scheme would be held on 22 June 1999.

*(Post-meeting note: At the suggestion of the Administration and with the consent of the two Chairmen, the joint meeting was postponed to 6 July 1999.)*

### **III Information papers issued since last meeting**

6. Members noted the following papers which were issued since the last meeting -

LC Paper Nos. CB(1)1218 and 1378/98-99 - submissions from the Lok Lo Ha Residents' Affairs Congress Association objecting against construction of Road D15 linking Lok Shun Path and Tai Po Road;

LC Paper Nos. CB(1)1279 and 1430/98-99 - papers from the Advisory Council on the Environment; and

LC Paper No. CB(1)1292/98 -99 - submission from the Hutchison Telecommunications (Hong Kong) Ltd. on the proposed amendments to the Noise Control Ordinance.

### **IV Managing construction and demolition material disposal**

(LC Paper No. CB(1)1442/98-99(01))

(a) Meeting with the Waste Reduction Committee

7. At the invitation of the Chairman, Mr Barrie COOK, Chairman of the Waste Reduction Committee (WRC) introduced its work. He said that WRC comprising 12

members was formed in early 1999 as part of the Waste Reduction Framework Plan. A number of task forces were set up to look at specific areas of waste reduction. At present there were task forces on public and private housing, the construction industry and the hotel industry. New task forces would shortly be formed to look at areas relating to the airport and the packaging industry. Members of WRC identified two major problems at its first meeting in March 1999, i.e. the problem of construction and demolition(C & D) material disposal and the absence of a charging schedule in line with the polluter-pays principle.

8. Mr COOK informed members that in April 1999, there were about 18,000 tonnes of waste disposed at landfills, of which 8,000 tonnes were C & D waste mixed with inert materials. Some 23,000 tonnes of inert C & D materials were gone to public filling areas. He stressed that inert C & D materials should not be disposed of in landfills. The costs of disposing inert C & D materials in landfills and in public filling areas were about \$200 and \$60 to \$80 per tonne respectively. If inert C & D materials continued to be disposed of in landfills, landfills would be filled up in five years' time, unless new public filling areas were identified. At present only two reclamation projects were designated as public filling areas, namely Pak Shek Kok and Tseung Kwan O Area 137 but these areas were expected to be exhausted by 2000.

9. Mr Derek ZEN, Chairman of the Waste Reduction Task Force for the Construction Industry (the Task Force), said that landfills received an average of 16,000 tonnes of waste per month of which 7,000 tonnes were C& D waste mixed with inert material. Of the total amount of 32,000 tonnes of C & D materials generated per day, about 20% were dumped in landfills. In the next few years, the average amount of inert C & D materials generated would be about five million cubic metres per year, which would be equivalent to about 10 million tonnes per year. Hong Kong would therefore need to have a filling capacity of about five million cubic metres per year to cater for the disposal of inert C & D materials. It was estimated that by 2000, all the available public filling areas including Pak Shek Kok and Tseung Kwan O Area 137 would be used up. Given that it would take 18 months to three to four years' time to make a site ready for public filling, new outlets for public fill should urgently be identified. Two areas had been earmarked for reclamation, namely Tuen Mun 38 Phase 2 Reclamation which would accommodate two million cubic metres of public fill and Penny's Bay Reclamation which would yield another nine million cubic metres of filling space. These new reclamation sites would provide outlets for filling for about two years. If properly designed, they might be able to accommodate more materials.

10. Mr ZEN said that the Task Force was concerned that reclamation projects were put on hold because of public objection or lack of funds. He considered the excuse of lacking of funds unacceptable given the cost saving in disposing of C & D materials in reclamation sites and the revenue generated as a result of the land formed by reclamation. The Task Force had identified measures to tackle the problem of C & D materials. Construction projects were often approved on very tight schedules and

contractors would tend to use marine sand which had a more guaranteed supply rather than relying on public fill. Seeking the co-operation of major corporations like Mass Transit Railway Corporation and Kowloon-Canton Railway Corporation on the use of filling materials in their construction projects was necessary. Another tackling measure was to stipulate the use of inert material in design. For this purpose, holding high level meetings with major corporations and developers to promote such a concept was suggested.

11. Mr ZEN said that as longer term solutions, C & D material recycling was needed and the availability of outlets for recycled material was the pre-requisite. The Task Force put forward the idea of a man-made Island within Hong Kong waters. This would not only provide outlets for contaminated waste and public fills but might also become a new strategic landfill. The Task Force would be making a formal proposal to the Government in adopting a fill bank policy. On the other hand, the construction industry would be encouraged to modify their construction method with a view to minimising the amount of C & D materials generated.

12. Dr C S POON concurred that the disposal of C & D materials was a serious problem. While WRC did not ask for reclamation as a means to solve the problem, at present reclamation projects provided an outlet for public fill. It was clear that Hong Kong needed a comprehensive solution to the problem. WRC suggested that consideration should be given to recycling and re-using C & D materials. Government departments should be encouraged to use filling materials instead of marine sand for reclamation. Co-operation should be sought from major corporations like KCRC and MTRC in minimising and recycling C & D materials generated from their construction projects. In WRC's view, the absence of a landfill charging scheme provided no economic incentive to reduce and recycle waste. Surveys done by the Hong Kong Polytechnic University indicated that contractors and developers were ready to pay for proper disposal of C & D materials as this would constitute only a small percentage of the construction costs. To resolve the problem, he strongly urged for early implementation of a landfill charging scheme. In his view, the proposed charge of \$43 per tonne of waste disposed of in landfills was too low.

(b) Meeting with the Administration

13. At the invitation of the Chairman, the Principal Assistant Secretary for Planning, Environment and Lands (Environment 2) (PAS/PEL(E2)) responded that the Administration was in broad agreement with the views of WRC on the ways to deal with the disposal of C & D materials. It would work closely with WRC and the Task Force and was now studying the ideas put forward by them.

14. With the aid of a computer, PAS/PEL(E2) explained the C & D material disposal strategy, covering information on landfill capacity, public fill generation, public filling

areas, public filling barging points, reuse and recycle of public fills, the programme constraints and the long-term issues.

*(Post-meeting note: A set of computer printouts used in the presentation was circulated to members vide LC Paper No. CB(1)1512/98-99)*

15. Mr LAU Kong-wah noted with concern the great disparity between the committed public filling capacity and the forecast public fill generation from 2001 onwards. He said that the Administration had yet to provide an effective solution to the problem of C & D material disposal. He was concerned in particular about a complete lack of reuse and recycle policy for C & D materials.

16. PAS/PEL(E2) admitted that there was no new solution to the problem of C & D materials. The problem was common to every society in the world. The Administration hoped to put existing solutions into better effect. Concerning recycling policy, PAS/PEL(E2) said that public fill had long been beneficially reused for reclamation. The Administration was looking at ways to turn suitable C & D materials into aggregates for concrete and asphalt, hard-core for road foundations and reconstituted timber products for construction. There was a possibility of developing an industry on the recycling of construction wood material. However, land and environmental constraints were the greatest hindrance for the development of such an industry.

17. Mr LAU Kong-wah was disappointed with the Administration's response. Mr CHAN Wing-chan said that he shared Mr LAU Kong-wah's view on the need for reuse and recycling of C & D materials. However, he was concerned about the durability of low grade concrete manufactured from recycled C & D materials and the cost effectiveness of using these materials given the heavy use of roads in Hong Kong.

18. Dr POON said that aggregates for concrete and asphalt made from recycled C & D materials were used in the States and European countries for a number of years. These types of concrete and asphalt were mostly used for road foundation works and were found to be acceptable. Hong Kong did not use these materials because the existing legislation was not so specified. The Task Force was examining the present specifications for works. To gauge the worthiness of roads using low grade concrete and asphalt, Dr POON said that the Administration would need to co-operate with academics to conduct research in this area.

19. In response to the Chairman's enquiry on the process involved in formulating solutions to the problem, PAS/PEL(E2) said that the process involved the planning and co-ordination of a number of departments, institutions and establishments.

20. Mr LAU Kong-wah enquired if WRC had any idea to deal with the problem of decoration and renovation waste generated from public housing and Home Ownership Scheme flats. Mr Barrie COOK said that WRC had set up a Task Force on Public and

Private Housing to deal with the problem. Mr COOK agreed that there was no easy solution to the problem given the quantity of C & D materials produced per day but there were ways to mitigate it. Recycling was but one of the ways to tackle the problem. An integrated approach involving strategic disposal options was needed. He called for more co-operation among Government departments in managing C & D materials. Changes in specifications were necessary to allow the use of concrete made from recycled materials, as was common in many European countries. He reiterated the need to introduce a charging schedule to discourage dumping of C & D materials in landfills and encourage their recycling.

21. Mr LEE Wing-tat said that the subject of construction and renovation waste generated by public housing works had been a subject of discussion by the Housing Panel. The Housing Authority was a major producer of C & D waste. Each year an average of 50,000 public housing units were built; 50,000 to 70,000 units underwent major renovation; and 10,000 units were refurbished. The Housing Panel had requested the Administration to provide regular reports on ways to handle construction waste generated from such works. Mr LEE said that, being the largest producer of construction waste, Government was in the best position to tackle the problem. He suggested including in the terms of public works contract a requirement to reduce and properly dispose of C & D materials. Introducing financial incentives to contractors was another means to encourage reuse and recycling of C & D materials. Experience showed that providing financial incentives and incorporating an express provision in works contracts were effective means to achieve an intended purpose. Miss Emily LAU agreed with Mr LEE's views.

22. PAS/PEL(E2) said that to address the concern about the huge amount of renovation waste produced, an amendment to the Buildings Ordinance (Cap. 123) was required. Under the existing provisions of the Buildings Ordinance, certain fittings had to be installed in buildings before the Building Authority would issue an occupation permit. The Administration was aware of the problem and was asking the Director of Buildings to examine the need for such a requirement. If the Director was satisfied that the requirement should be changed, then an amendment would be made to the Buildings Ordinance. The time taken to effect the legislative amendment would depend on the priority given to the amendment by both the Administration and LegCo.

23. The Chairman urged PAS/PEL(E2) to convey members' call to the relevant departments for an expeditious amendment to the Buildings Ordinance.

24. Mr LAW Chi-kwong queried why the proposed landfill disposal charge was set at \$43 per tonne as the landfill cost was said to be about \$60 to \$80 per tonne. To allay the concern of dumper drivers to effect up-front payment for landfill charges on behalf of construction companies, Mr LAW suggested that when giving approval for the commencement of construction or demolition works, the Administration should collect a certain sum of money from contractors based on the estimated amount of C & D

materials to be disposed of in landfills. Trip-tickets would then be given to dumper drivers for dumping of C & D waste in landfills.

25. PAS/PEL(E2) said that the Administration was reviewing the proposal for landfill charging including the charge level as well as the mechanism of payment. The Administration did not intend to collect payment direct from waste producers. Instead a chit system was being contemplated for the construction industry. However, it was not considered practical nor cost effective to apply the chit system across the board to all industries because too many waste producers were involved as far as municipal, commercial and industrial waste was concerned. PAS/PEL(E2) said that the Administration hoped to complete the review on the charge level before July 2000.

26. Mr Derek ZEN said that as a contractor, he did not mind paying landfill disposal charges as these could be included as part of the construction costs and were insignificant in relation to the total cost of a contract. He considered the proposed charge of \$43 per tonne too low. In his view, the important thing was how best to utilize the C & D materials generated.

27. Miss Emily LAU expressed dissatisfaction about the current state of affairs. She considered the problem a pressing issue and should be dealt with urgently. She suggested that the Panel should hold another meeting in July 1999 to continue discussion on the issue. All relevant bureaux and departments such as Planning, Environment and Lands Bureau, Housing Bureau, Works Bureau, as well as representatives from private developers and contractors should be invited to the meeting.

28. Mr Martin LEE said that it was deplorable that the Administration was still in the thinking process and had not come up with solutions to tackle the pressing problem. He said that members could afford no further waiting. He requested the Administration to formulate concrete proposals before the summer recess for the Panel's consideration. Mr LEE said that should the Administration fail to do so, the designated Secretary for Environment and Food should be notified of it.

29. After discussion, members agreed that the Panel should hold a special meeting on 23 July 1999 at 2:30 pm to further discuss the subject and all other relevant Panels should be invited to attend. WRC, private developers and contractors should also be invited to attend the meeting. Members requested PAS/PEL(E2) to co-ordinate the attendance of representatives of all relevant bureaux and departments including the designated Secretary for Environment and Food. Members reiterated the need for the Administration to urgently work out concrete and practicable proposals to resolve the problem of C & D material disposal, taking account of the views expressed at this meeting.

(*Post-meeting note* : With the consent of the Chairman, the Real Estate Developers Association of Hong Kong and the Hong Kong Construction Association were invited to the meeting. Members of the Panels on Housing and Planning, Lands and Works were invited to attend the meeting.)

**V Outlying Islands Sewerage Stage 1 Phase 1**  
(Paper No. CB(1)1442/98-99(02))

30. With the aid of a computer, the Chief Engineer/Consultants Management, Drainage Services Department (CE/DSD) explained the background, the scope of works and the justification for carrying out the proposed improvement works at Cheung Chau sewage treatment plant under the Outlying Islands Sewerage Stage 1 Phase 1 project which were set out in the paper. The works included the upgrading of sewage sludge dewatering facilities at the sewage treatment plant to enhance its sludge dewatering capability and the construction of a new outfall and an associated pumping station to improve the dispersal capability of the treated effluent. CE/DSD advised that upon the completion of the new outfall and its associated pumping station, the existing submarine outfall would be used as a back-up.

31. Miss CHOY So-yuk enquired whether the technologies of constructing the new outfall at Cheung Chau and the tunnels for the Strategic Sewage Disposal Scheme (SSDS) Stage I were similar. CE/DSD said that compared with the tunnelling works for the SSDS Stage I, the construction of the new outfall at Cheung Chau was technically straight forward. It would mainly involve dredging and trenching works under water, to be followed by pipelaying and backfilling.

32. Dr Raymond HO enquired whether the new outfall, with its extended length and a new discharge location, would have less environmental impact on the surrounding waters. CE/DSD said that although the effluent would receive primary treatment, as the new discharge location would be in deeper waters, a better dispersal effect could be achieved.

33. Dr Raymond HO sought clarification on the reasons for not upgrading effluent treatment from primary to secondary level under the sewage improvement works. The Principal Environmental Protection Officer (Sewage Infrastructure Planning) (PEPO) said that before deciding on the choice of the discharge location, a mathematical modelling study had been conducted on the hydraulics of water currents at the proposed discharge location. The study indicated that given the depth of the discharge location and the strength of water currents, there would be sufficient dilution in respect of effluent receiving primary treatment and the Water Quality Objectives (WQO) could be met. Nevertheless, the Administration would review the need for upgrading the plant to secondary treatment in due course.

34. On Dr Raymond HO's further enquiry on the projection on the sewerage need of the Cheung Chau population, PEPO advised that the population of Cheung Chau in 1996 was over 20,000 and was expected to decrease to 17,000 in 2016 according to the projections made by the Planning Department in 1998. Presently, the sewage treatment plant in Cheung Chau was capable of treating an average flow of 4,000 cubic metres of sewage per day for a population of 19,000. Dr Raymond HO expressed reservations about the accuracy of the projected population of Cheung Chau. Mr WONG Yung-kan said that the projected sewerage need might not have taken into account the moving population which included non-residents and tourists visiting Cheung Chau.

35. Miss CHOY So-yuk asked whether the sewage treatment plant was equipped for chemically-enhanced primary treatment; whether land was reserved for further upgrading of treatment; and whether Environmental Impact Assessment (EIA) study had been conducted on the choice of the outfall location. She also enquired if it would be more cost effective to upgrade the treatment level than to construct a longer outfall.

36. In response to Miss CHOY's enquiries, CE/DSD and the Principal Assistant Secretary for Planning, Environmental and Lands (Environment 3) (PAS/PEL(E3)) advised that the present sewage treatment plant in Cheung Chau provided primary treatment of sewage. According to the result of a mathematical modelling study, the existing primary treatment process plus the improved dilution effect provided by the new outfall would allow the relevant WQO to be met. Nevertheless, land had been reserved for future expansion and upgrading of sewage treatment, if necessary. The Administration would continue to assess and review the need for upgrading the level of treatment. Meanwhile, the current proposal was to upgrade the existing sludge dewatering facilities to improve their effectiveness during wet season and to replace the existing submarine outfall by a new longer outfall to improve the dispersal capability of treated effluent. EIA had been conducted on the proposed discharge location for the new outfall.

37. Professor NG Ching-fai enquired whether the Administration had contemplated the introduction of secondary or tertiary treatment of effluent. CE/DSD reiterated that the Administration had carried out studies before making a decision to proceed with the proposed improvement works. The primary concern was to meet WQO. Other factors that had been taken into account included the extent of land required and the costs of different alternatives. A higher level of treatment would need a larger piece of land and more resources particularly in terms of maintenance and repairs. The proposed option was considered the best choice which would not only meet WQO but would also minimize costs. CE/DSD confirmed in response to Professor NG that a diffusion simulation model had been done.

38. At the request of members, the Administration agreed to provide the EIA study on the Cheung Chau Sewage Treatment Works submarine outfall.

(*Post-meeting note* : the Administration provided a copy of the executive summary of the EIA study which was circulated to members vide LC Paper No. CB(1)1442/98-99 on 14 June 1999)

**VI Ting Kau Sewerage Stage 1 and Sham Tseng Sewerage Stage 2 Phase 2**  
(LC Paper No. CB(1)1442/98-99(03))

39. With the aid of a computer, CE/DSD explained the justification and the scope of works for Ting Kau Sewerage Stage 1 and Sham Tseng Sewerage Stage 2 Phase 2. He stressed that at present there were no public sewerage facilities in Ting Kau, Sham Tseng and Tsing Lung Tau. Most of the sewage from these areas was discharged to nearby coastal waters without proper treatment, thereby causing water pollution. There was thus an urgent need to rectify the situation.

40. Noting that the new sewerage facilities would provide for chemically-enhanced primary treatment with disinfection, Miss CHOY So-yuk queried why secondary treatment of effluent was not recommended. She considered the proposed treatment process inadequate as the nearby coastal areas were prone to red tides and were frequented by Chinese White Dolphins. She was of the view that since sufficient land had been reserved for the new sewerage facilities, secondary treatment of effluent should be provided.

41. PAS/PEL(E3) said that the Administration had already analysed the various options of treatment and concluded that chemically-enhanced primary treatment plus disinfection was the most cost effective option. This level of treatment would not only meet WQO but would also provide sufficient protection to Chinese White Dolphins.

42. Miss CHOY So-yuk said that there might be a need to consult professionals on the choice of sewage treatment for the proposed works. In this connection, information on the respective costs of chemically-enhanced primary treatment and secondary treatment was relevant. Noting that the Administration would be submitting a funding proposal to the Public Works Subcommittee at its meeting on 16 June 1999, Miss CHOY said that she would need more time to study the available options.

43. The Chairman agreed that the Administration should provide further information to convince members of the adequacy of the proposed level of treatment. Members requested and the Administration agreed to provide the following -

- (a) the EIA report on the Ting Kau and Sham Tseng Sewage Scheme; and
- (b) a comparison of the cost estimates for chemically-enhanced primary treatment and secondary treatment plants for the Ting Kau/Sham Tseng Sewerage Scheme.

44. The Chairman said that if members considered that queries had not been adequately clarified after receiving the supplementary information, they might request deferment of the funding application. PAS/PEL(E3) said that the Administration would provide members with the requested information as soon as possible. The Administration did not wish to postpone the funding application because there was an urgent need to provide sewerage facilities to the unsewered areas in Sham Tseng and Ting Kau.

*(Post-meeting note: The executive summary of the EIA report and the cost comparison were provided by the Administration and circulated to members vide LC Paper No. CB(1)1511/98-99 on 14 June 1999.)*

## **VII Any other business**

45. There being no other business, the meeting ended at 1:00 pm.

Legislative Council Secretariat

3 August 1999