Confirmed Minutes of the 148th Meeting of the Advisory Council on the Environment held on 14 January 2008 at 2:30 pm

Present:

Prof LAM Kin-che, SBS, JP (Chairman)
Mr James GRAHAM
Ms Betty HO
Mr Edwin LAU
Ms Goretti LAU
Dr MAN Chi-sum, JP
Dr NG Cho-nam, BBS
Prof POON Chi-sun
Mr Markus SHAW
Mr TSANG Kam-lam
Mr Eddie WONG
Mr Simon WONG
Prof WONG Tze-wai
Dr YAU Wing-kwong
Mr Carlson K S CHAN (Secretary)

Absent with Apologies:

Prof WONG Yuk-shan, BBS, JP (Deputy Chairman)
Dr Dorothy CHAN, BBS
Prof Howard HUANG
Prof Paul LAM

In Attendance:

Ms Anissa WONG, JP	Permanent Secretary for the Environment
Mr Joseph SHAM	Assistant Director (Country & Marine Parks), Agriculture, Fisheries and Conservation Department (AFCD)
Mr P Y TAM	Assistant Director/Technical Services, Planning Department
Ms Monica KO	Principal Information Officer, Environmental Protection Department (EPD)
Ms Josephine CHEUNG	Chief Executive Officer (CBD), EPD
Miss Sarah NG	Executive Officer (CBD), EPD

In Attendance for Agenda Item 3:

Mr C W TSE	Assistant Director (Environmental Assessment), EPD
Mr Maurice YEUNG	Principal Environmental Protection Officer (Assessment and Noise), EPD
Mr Alan CHAN	Senior Marine Conservation Officer (East), AFCD
Mr CHOI Kwong-chuen	Senior Marine Conservation Officer (West), AFCD
Mr Richard CHAN	Senior Conservation Officer (Central), AFCD
Dr SO Chi-ming	Fisheries Officer, AFCD
Mr WONG Sui-kan	Senior Engineer/Consultants Management 1, Drainage Services Department (DSD)
Mr WONG Wing-fai	Engineer/Consultants Management 8, DSD
Mr YEUNG Kwok-kuen	Deputy Head of Civil Engineering Office (Port & Land), Civil Engineering and Development Department (CEDD)
Mr LAU Wing-fai	Chief Engineer/Port Works, CEDD
Mr Ricky WONG Chi-pan	Senior Engineer/Projects 1, CEDD
Mr Peter KAN	Chief Executive Officer (Planning)2, Leisure and Cultural Services Department (LCSD)
Mr Alfred CHOW	Chief Leisure Manager (New Territories East), LCSD
Mr LAM Hang-shing	Senior Architect, Architectural Services Department
Dr Robin KENNISH	Director, Environment Resources Management ï Hong Kong Limited (ERM)
Mr Terence FONG	Senior Consultant, ERM
Mr Peter SHEK	Project Manager, Halcrow China Limited

In Attendance for Agenda Item 4:

Mr Benny WONG	Assistant Director (Air Policy), EPD
Mr PANG Sik-wing	Principal Environmental Protection Officer (Air Policy), EPD

In Attendance for Agenda Item 5:

Mr TSANG Kam-lam	General Manager, Hong Kong Productivity Council (ACE Member)
Miss Mary TSANG	Assistant Director (Cross Boundary & International), EPD
Mr David WONG	Principal Environmental Protection Officer (Cross Boundary & International), EPD

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Action

Agenda Item 1 : Confirmation of the draft minutes of the 147th meeting held on 10 December 2007

The draft minutes were confirmed without amendments.

Agenda Item 2 : Matters arising from the minutes of the 147th meeting held on 10 December 2007

2. There were no matters arising from the minutes of the last meeting.

Agenda Item 3 : Report on the 100th Environmental Impact Assessment Subcommittee meeting
(ACE Paper 1/2008)

3. The Chairman informed Members that agenda item 3 would be divided into four parts ï

(a) Internal Discussion Session
(b) Presentation Session
(c) Question-and-Answer Session
(d) Internal Discussion Session

The Presentation and Question-and-Answer Sessions would be opened to the public. Internal Discussion Sessions of agenda item 3 and all other sessions of the meeting would remain closed.

Internal Discussion Session

4. The Chairman informed Members that the Environmental Impact Assessment (EIA) Subcommittee considered the EIA report on ñDevelopment of a bathing beach at Lung Mei, Tai Poò on 17 December 2007. The Subcommittee examined the EIA report in detail and recommended that some outstanding issues and concerns be further discussed by the full Council.

5. A Member declared interest for he was appointed as a member of the Tai Po District Council from the current term commencing 1 January 2008. A Member declared interest as the Conservancy Association, of which she was the Chairman, raised an objection against the project. A Member declared

interest for he was one of the Directors of the Conservancy Association. A Member declared that he was a resident of Tai Po. The Chairman suggested and Members agreed that all Members concerned could stay and continue to take part in the discussion as they had neither personal nor direct interest in the project under consideration.

6. The Chairman informed Members that public comments received by the Environmental Protection Department (EPD) after the Subcommittee meeting were circulated to all Members for reference before the meeting. Separately, some public comments directly addressed or copied to the Council after the Subcommittee meeting were circulated to all Members for information before the meeting. Before the meeting, six sets of public comments were received from a petition group. Advance copies of four sets of comments had been received and circulated to Members prior to the meeting. They included letters from the Tai Po District Council, Tai Po Rural Committee, Tai Po Tsat Yeuk Rural Committee and Tai Po Societies Fraternal Association. In addition, a set of 377 signatures was received and the content of comment was identical to a set of comments circulated to Members before the meeting. A set of comments with names of 65 organizations in Tai Po, which had not been circulated to Members, was tabled for Membersô reference. A Member noted that the Tai Po Environmental Association, of which he was the Chairman, was included in the list. He said that the Association remained neutral in stance regarding the project. The meeting agreed that the public comments should be for the Director of Environment Protection (DEP) to consider.

7. The Chairman of the EIA Subcommittee reported the recommendations of the Subcommittee on the EIA report. He highlighted that the Subcommittee recommended that the following outstanding issues and concerns be further discussed ï

(a) justifications for the extent of reclamation and possibility of reducing the size of reclamation;

(b) time frame in achieving the 60% sewerage connection rate for village houses in Lung Mei area to connect the private sewers to the public sewer, and implications (particularly on public expenditure) if the anticipated sewerage connection rate could not be achieved; and

(c) difference of information about intertidal fauna between those presented in the EIA report and recent findings of members the public, and implications on the assessment of the ecological value of the project site.

8. A Member said that from the perspective of environmental impacts caused by the project during the construction and operation phases, the impacts were not significant. Nonetheless, there were concerns about the suitability of developing the site as a bathing beach from the environmental point of view. A key issue was that the development of beach facilities would attract beach users and it was necessary to ensure that the bathers would not be subject to health impact due to unacceptable water quality. Another key issue was that reclamation was required and it was not feasible to mitigate or compensate the adverse ecological impacts, if any.

9. In reply to the Chairmanôs enquiry about other outstanding issues that Members would like to raise, A Member said that she would like to further discuss the issue of justifications on the scale of the project. A Member would like to further discuss the issue of long-term effects arising from hydrodynamic changes due to the project and sustainability of the artificial beach.

10. The Chairman said that it was also necessary to consider whether the EIA report contained the necessary and comprehensive information for the Council to make a balanced decision, in light of the difference of information about intertidal fauna between those presented in the EIA report and recent findings of members of the public.

11. In response to a Memberôs enquiry about the Councilôs remit in considering EIA reports, the Chairman said that the Council was one of the statutory consultees in giving comments to the DEP on EIA reports. The Council had to give comments on an EIA report within 60 days of receiving a copy of the report. The Council could endorse the EIA report with or without condition(s) or reject the report with justified and specific ground(s).

(The project proponent team joined the meeting at this juncture.)

Action

***Presentation Session* (Open Session)**

12. Mr Yeung Kwok-kuen briefed Members on the background of the project. On the justifications for the extent of reclamation, Mr Ricky Wong explained that most of the beach facilities were built on existing land. The area of reclamation was trimmed to 1.02 ha for providing required facilities, including 0.6 ha for beach area, 0.26 ha for beach building, 0.09 ha for car park and 0.07 ha for groin. Dredging works would be mainly confined to the area underneath the two groynes for foundation construction and removal of boulders underneath the proposed beach area.

13. Mr Ricky Wong said that reference was made to the Cafeteria New Beach on the size of the beach which was 200 m by 50 m in size with a daily patronage of 3,800 people in summer and 1,800 people in non-peak months. The proposed Lung Mei Beach was 200 m by 30 m in size. The footprint of beach building had been minimized for providing basic facilities, including emergency vehicle access, barrier free access and other statutory requirements such as sanitary fitments and fire services installations. Regarding the car park, a transport requirement survey had been conducted. On the advice of the Transport Department (TD), reference was made to the Clearwater Bay Second Beach with similar traffic and residential conditions. The study result indicated that the estimated number of private car park spaces required for Lung Mei Beach was 106 which was trimmed to 100. He highlighted that there was no over-provision of facilities.

14. On the time frame in achieving the 60% sewerage connection rate, Mr Ricky Wong said that the Drainage Services Department (DSD) would complete the sewerage improvement works at Tai Mei Tuk, Lo Tsz Tin, Lung Mei and Wong Chuk Tsuen by end of 2010. To ensure the beach water quality would meet the required standard for protection of public health, measures would be taken. As stated in section 12.4 of the EIA Report, the Civil Engineering and Development Department (CEDD) and the Leisure and Cultural Services Department (LCSD) would closely monitor the implementation programme of the village sewerage projects during the operation phase to ensure a sewerage connection rate of 60% to public sewers in Lung Mei area was achieved before the beach was put into operation. As stated in section 6.9.2 of the EIA Report, CEDD committed to conducting at least six weeksô post-construction water quality monitoring twice per week at two diverted drains and EPD routine monitoring stations to examine the

correlation of the pollution loading and beach water quality.

15. On the intertidal fauna in the project site, Dr Robin Kennish explained that the survey methodology adopted in the EIA fully complied with all stipulated requirements. The methodology included detailed steps of conducting literature review; reconnaissance survey and habitat mapping; two-season (wet/dry) surveys on terrestrial and aquatic habitats; evaluation of the importance of habitats inside and outside the works areas; prediction of severity of impacts to identified habitat, fauna and flora and the need for mitigation measures; and examination of residual impacts and highlight the need for Environmental Monitoring and Audit. The study area of the ecological survey covered 500 m from the project site.

16. Dr Robin Kennish highlighted that the project site was mainly sandy beach area with scattered boulders in the intertidal region. The survey methodology on marine environment was made reference to the study brief (SB) issued under the EIA Ordinance (EIAO); Technical Memorandum on EIA Process (TM) (annex 8 on criteria for evaluating ecological impact and annex 16 on guidelines for ecological assessment); Guidance Notes on ecological surveys and marine ecological surveys available at EPD website; methodologies adopted in previous EIA studies; and internationally adopted survey techniques (such as Rapid Ecological Assessment (REA)). The marine surveys covered three months from October to December (wet and dry seasons). He highlighted that it was stipulated in Guidance Note No. 7/2002 that an ecological baseline survey was more general in nature and mainly aimed at revealing the general ecological profile of the study area to facilitate the subsequent impact assessment. In most cases, it was impractical for an ecological baseline survey to provide exhaustive ecological information of a site, such as an exhaustive species list. Thus, the EIA report aimed at providing data on the representative flora and fauna as well as habitat structure of the site.

17. On the list of 106 species of marine organisms reported by some members of the public (the reported list), Dr Robin Kennish highlighted that the reported list had not been independently verified. After review by specialists, it was found that the intertidal fauna in the list were typical species on sandy and sheltered rocky/boulder shores in Hong Kong. At least 40% of the reported list consisted of common subtidal species such as fish, crabs and prawns, which would be easily captured during subtidal surveys. In the EIA study, the subtidal area was examined by using REA which focused on major sessile

organisms and species of conservation importance, such as corals, rather than individual species records. The EIA report presented details on the dominant and representative species from the intertidal and subtidal areas in establishing the main habitat characteristics.

18. Dr Robin Kennish highlighted that literature review from local sources revealed that 110 to 170 species of marine fauna could be recorded in a typical enclosed sandy habitat similar to Lung Mei. Related publications by Professor B S Morton (formerly of the University of Hong Kong) indicated that the species list for most local sandy shores could be more than 100.

19. Dr Robin Kennish explained that the intertidal soft shore habitat of the project site was classified as of low ecological value and the habitat characteristics were very common in Hong Kong. In terms of affected shoreline, only about 200 m of sandy shoreline and about 0.5 ha of intertidal habitat were affected. There was a large extent of similar habitat in Tolo Harbour, Tolo Channel and Plover Cove. The shoreline of Plover Cove was over 9 km and the shoreline affected was about 2.2% of the shoreline of Plover Cove. In Hong Kong, there were about 247 ha or over 150 km long of sandy shore. The sandy shore affected was approximately 0.2% of sandy shore in Hong Kong.

20. Dr Robin Kennish said that the intertidal and subtidal fauna species, whether those in the EIA report or the reported list, were typical species found in local sandy/rocky shores. After taking into account the new information, it was concluded that there was no change to the rating of the ecological importance of the project site, i.e. low ecological importance. Given the small size of the affected soft bottom habitat and large extent of similar habitats in the vicinity, unacceptable impacts were not predicted. Thus, the conclusion of the EIA report remained valid.

21. Dr Robin Kennish said that majority of the species in the reported list were common and typical species, except the Two-spot Goby (the Goby) *Glossogobius biocellatus*, which was a fish species listed as Lower Risk Near Threatened under the IUCN (International Union for the Conservation of Nature and Natural Resources) Red List. In view of the reported presence of the Goby, a search of the project site would be conducted prior to the commencement of marine construction works. If the Goby was recorded following taxonomic confirmation, a translocation feasibility proposal would be

submitted to the Agriculture, Fisheries and Conservation Department (AFCD) for approval prior to the translocation works.

Question-and-Answer Session (Open Session)

22. On the ecological assessment, the Chairman enquired about the large difference in the number of species in the EIA report (about 40) and the reported list (106). Dr Robin Kennish highlighted that a straight comparison of number of species found was not appropriate. The reported list included a large portion of subtidal fauna. The EIA methodologies for conducting intertidal and subtidal surveys were very different. Intertidal surveys focused on qualitative study while subtidal surveys focused on dive surveys by means of REA. Rather than identifying an exhaustive list of species, the surveys aimed at characterizing the dominant and representative ecological fauna, habitat structure and items of conservation interest under the TM, such as mangroves, corals and sea grasses.

23. In reply to the Chairmanôs enquiry, Dr Robin Kennish confirmed that REA was a subtidal survey methodology recommended under the Guidance Note No. 11/2004 and it was a commonly adopted approach derived in Australia and used for EIA as well as research studies.

24. A Member asked about the details in conducting the intertidal surveys. Dr Robin Kennish said that the intertidal surveys were conducted from October to December 2006 for three times at locations above the lowest low tide mark at the low tide period during daytime.

25. A Member said that the survey period from October to December seemed to cover only one season. Moreover, no nighttime survey was conducted. Dr Robin Kennish said that based on the classification of seasons in Hong Kong in the Guidance Notes, the summer wet period was from April to October and the remaining months were classified as winter dry period. Surveys were conducted in daytime focusing on representative or dominant fauna, in particular species of conservation importance.

26. The Chairman asked about the difference in conducting daytime and nighttime intertidal surveys. Dr Robin Kennish said the standard practice recommended for conducting intertidal surveys was at daytime. No substantial difference was anticipated between daytime and nighttime surveys except that it

might be occasionally easier to record some fast-moving fauna at night. The difference was more significant for terrestrial surveys.

27. A Member considered it important to verify the information provided by the public. A Member enquired about the conservation value of the species in the reported list. Mr Terence Fong said that it was difficult to verify the reported list as only photos were provided. Some species, such as the Goby, were difficult to identify specifically just by means of photos. No verification works had been conducted for the reported list. The reported list was reviewed in relation to their habitat characteristics as well as commonness in Hong Kong and other areas based on scientific fish-base literature and international information. The review showed that all the species were common and typical species in Hong Kong, except the Goby which was of conservation importance.

28. In reply to a Memberôs enquiry about the Goby, Dr Robin Kennish said that based on literature reviews, the Goby was reported to be found elsewhere in intertidal areas of Hong Kong, such as Plover Cove, Castle Peak Bay, Sai Kung and Northern New Territories. They were also widely distributed in Asian Pacific region. They had a preference for mangroves and estuaries typically found down to 10 m deep. The literature did not indicate that they had a preference for sandy/boulder shore habitat such as that of Lung Mei. The fish was highly mobile with high resistance to disturbance and had high resilience with a minimum population doubling time of less than 15 months indicating a relatively high recovery capability. He highlighted that this species was often confused with the more common *Glossogobius giuris*. Thus, any discovery of the suspected Goby had to be verified by fish taxonomy specialists.

29. A Member asked about the feasibility of translocating the Goby. Dr Robin Kennish said that any proposal for translocating the species would require related translocation feasibility studies. It should be noted that the timing of dredging and construction works would be phased to allow time for mobile fauna, including the Goby, to migrate from the project site and return after completion of works.

30. In reply to the Chairmanôs enquiry about the species Dragonet which was in the reported list, Dr Robin Kennish said that there were over 11 different species of Dragonet in Hong Kong and in the South China region. It

was difficult to identify the specific species from the photos. None of the Dragonet found in Hong Kong was listed in the IUCN Red List and many were commonly found in sandy shore habitat.

31. In reply to the Chairmanôs enquiry about Peacocksole in the reported list, Mr Terence Fong said that the species was a common species in the South China Sea, such as Yiantian and along coastal area of Taiwan.

32. A Member asked how a dominant habitat could be identified without establishing an exhaustive list of species. Dr Robin Kennish explained that the methodology adopted for EIA surveys was to identify the most abundant flora and fauna in order to characterize the habitat structure of the site. An exhaustive species list could not help the study. It was more important to identify items of ecological interest. The methodology was a well-recognized approach and complied with stipulated requirements.

33. A Member enquired about the extent of sandy shoreline affected by the project in terms of natural shoreline of Tolo Channel as well as that of Hong Kong as a whole. Dr Robin Kennish said that the affected shoreline was about 2.2% of the shoreline of Plover Cove. There was a large extent of similar habitat available in Tolo Channel and Hong Kong.

34. A Member enquired about the possible impacts of construction works on the species in the reported list. Dr Robin Kennish explained that construction works would be carried out in phases, allowing time for marine fauna to move away and return to the site after completion of works. Sand would be delivered by boat and loaded above the high water mark. The sand would be gradually re-profiled seawards by wave actions. There would not be physical profiling works beneath the sea level. Thus, the impact on the subtidal habitat would be gradual. There might be some misunderstandings that sand-filling works would be carried out from the subtidal area upwards toward the beach.

35. A Member considered that the information provided by some members of the public showed their concern about the ecology. This case reflected the shortcoming of the EIA process in identifying strategic impacts of individual projects. No matter whether the species reported were classified as species of ecological importance, the key point was that it was a natural area of biodiversity. While the species reported were typical, it did not mean that they

were not valuable. A combination of individual projects would cause cumulative impacts. Moreover, a large extent of shoreline in Tolo Harbour had been destroyed by reclamation. He noted that there were complaints from the Fisheries Associations in the area about the loss of natural shoreline in Tolo Harbour.

36. Dr Robin Kennish said that the survey data revealed that the fauna species found in Lung Mei area was not as diverse and abundant as that in the neighbouring habitat in the Tolo Harbour and Tolo Channel areas, such as Lok Wo Sha, Kei Ling Ha and Yung Shue O.

37. On the scale of the project, a Member asked the reasons for making reference to two different beaches for justifying the scale of the beach and size of the car park. Mr Ricky Wong explained that reference was made to the Cafeteria New Beach on the scale of the beach based on anticipated patronage. However, there was no car park facility at the Cafeteria New Beach. In designing the car park for Lung Mei Beach, TD was consulted in making reference to the Clear Water Bay Second Beach, which had similar residential and transport settings to Lung Mei. A transport requirement survey was conducted.

38. A Member queried the need for the provision of a car park with 100 private car spaces. She considered that the Clear Water Bay Second Beach served beach users from other districts but the Lung Mei Beach would mainly serve local residents. Mr Ricky Wong said that the target users of Lung Mei Beach were from the east region of the New Territories, including Shatin and North districts. Mr Alfred Chow added that while there was no car park facility at the Cafeteria New Beach, beach users would use the nearby car parks at Golden Beach (176 spaces), Cafeteria Old Beach (87 spaces) and Castle Peak Beach (43 spaces). While there was car park facility at Tai Mei Tuk, the demand was already very high for users of existing recreational facilities.

39. A Member expressed doubt on the popularity of the Lung Mei Beach having regard to the high anticipated downtime for bathing purpose. Mr Alfred Chow said that the design of Lung Mei Beach had taken into account the anticipated downtime and site constraints. The Cafeteria New Beach was not a particularly popular beach in the west New Territories. It was appropriate to draw it as a reference in view of similar characteristics and size of the two beaches.

40. In reply to the Chairmanôs enquiry, Mr Alfred Chow said that while the demand at peak hours could not be met, there should be provision of reasonable number of car park spaces based on estimated demand. Otherwise, there would be traffic problem in the area.

41. On the possibility of sand loss, a Member said that some local residents claimed that the project was a restoration of the old beach. He was concerned about the erosion process in the area which might affect sustainability of the proposed new beach. Mr Ricky Wong said that for the purpose of the project, a hydrodynamic study had been conducted on the existing setting with the Plover Cover dam in place. The study examined whether the imposition of the proposed new beach development would cause sedimentation or erosion to nearby areas. The study covered the orientation of the beach and length of sand retaining structure, i.e. the groynes. To prevent sand drift by wave actions, two groynes would be constructed as sand retaining structures. The study did not cover details about the presence of an old beach before the construction of the Plover Cove dam.

42. The Chairman considered that unless there was concrete information to ascertain that there was a beach many years ago and disappeared due to erosion process, the discussion should focus on the impacts of the new development on the nearby area, including the possibility of sand loss.

43. Mr Peter Shek explained that the hydrodynamic study included cross-shore modelling and long-shore (littoral) modelling. Cross-shore modelling was conducted to simulate and predict the littoral process occurring along the beach profile while the long-shore modelling was conducted to simulate and predict the longer term evolution of beach response to wave actions. Different scenarios on the groyne length were adopted. The optimal scenario was recommended (one 100 m long at the west and one 120 m long at the east). An equilibrium situation would be maintained after re-profiling of new sand. The sand would be maintained within the two groynes. There would not be any loss of sand over time according to the modelling result, even under strong storm situation of one in 100 years, where in the model the wave height was about 1.15 m. Moreover, this potential littoral drift across the beach frontage would not be sufficient to cause significant up-drift or down-drift effects on the adjacent coastline.

44. In reply to a Memberôs enquiry, Mr Ricky Wong said that dredging

works for the groynes would take about two months and placement of rubbles would take another two months. Placement of sand would be done at the late stage of about two to four weeks before operation of the beach.

45. A Member enquired about the gradient of the beach in the final stage and potential danger posed to the beach users. Mr Peter Shek said that the initial profile of the sand would be steeper and it would gradually become gentler after re-profiling, when it reached equilibrium. The gradient would be similar to other beaches for recreational purpose in Hong Kong. As a safety measure, warning signs would be displayed at the beach during the initial stage to alert beach users of any sudden drop in gradient.

46. In reply to a Memberôs enquiry, Mr Peter Shek said that the re-profiling of new sand would take about three months to a yearôs time by natural wave actions, but the actual length of time would be dependent on the course of nature. Nonetheless, the sand would be contained within the groynes as the wave action in the area was considered benign.

47. In reply to a Memberôs enquiry about the source of sand, Mr Ricky Wong said that the sand would be mainly from Zhu Jiang in the Mainland. There were detailed guidelines to ensure the quality of imported sand, including sampling at source and testings to ensure that the sand was free from organic substances and contaminants. Mr Peter Shek added that some sand might be sourced from other countries such as Vietnam; however, this would be dependent on the time of contract award and the contractor awarded the contract as the contractor might have sand sources or knowledge of sand sources in other regions in the Southeast Asia.

48. On the issue of water quality, a Member asked whether the water quality modelling had taken into account the change in hydrodynamics. Dr Robin Kennish explained that the water quality modelling adopted was the Delft 3D hydrodynamics water quality modelling which was built on the hydrodynamics model and calibrated/validated for the purpose. In terms of water quality, the prediction results indicated compliance with the water quality objectives (WQO) for dissolved oxygen with or without the beach. Thus, the development of the beach would not affect the dissolved oxygen level in the area.

49. A Member enquired about the current water quality and whether

the water quality modelling had taken into account potential pollution caused by beach users. Mr Ricky Wong said that hydrodynamic analysis and water quality modelling were conducted for comparing the change in water quality prior to and after introducing the water quality improvement factors, including the diversion of drains, provision of groynes and 60% sewerage connection rate. The information was used to assess the water quality of the beach based on the annual ranking system and weekly grading system. The results based on the annual ranking system showed that the water quality met the WQO of a maximum level of *E. coli* of 180 cfu/100 mL. The results based on the weekly grading system showed that over 86% of the time during bathing seasons in the operation phase, the grading would be of Grade 2 (good) or Grade 3 (fair) by using the geometric mean of *E. coli*.

50. In reply to the Chairmanôs enquiry, Mr Ricky Wong referred to Table 6.28 of the EIA Report which showed the prediction that 24% of the time during the bathing seasons, the water quality based on the weekly grading system would be of Grade 3 (poor) while 14% would be of Grade 4 (very poor).

51. Noting that 38% of the time in which the water quality was graded poor or very poor, a Member said that the percentage was relatively high. He queried the worth in developing the beach with the large amount of public money. Mr Ricky Wong explained that based on the prevailing policy of LCSD, only about 14% of the time (Grade 4) that the beach would be closed. In reply to a Memberôs enquiry, Mr Alfred Chow confirmed that the 14% downtime was acceptable to LCSD.

52. In reply to a Memberôs enquiry about the scope of sewerage works in Lung Mei area, Mr Ricky Wong explained that truck sewers had been laid along Ting Kok Road. DSD would extend branch sewer network from existing trunk sewers to individual houses as far as practicable. Mr Wong Sui-kan added that in planning the village sewerage project, they had identified the relevant ñvillageò zone in the outline zoning plan in Lung Mei area as the catchment area. The village sewerage network would serve not only the existing village houses but also the proposed new village houses with applications submitted to District Lands Office within the catchment area. The 60% sewerage connection rate referred to the whole catchment in Lung Mei area of both existing as well as planned village houses based on available information.

53. A Member expressed doubt about the justifications for developing the beach where the water quality was not satisfactory and the natural habitat and coastline would be affected. Mr Peter Kan explained that there was a lack of gazetted public bathing beach in the east region of the New Territories, except those in Sai Kung District which was relatively far away. In view of the strong request of the Tai Po District Council and support of the members of the Legislative Council, the project was proposed to enhance the beach to a gazetted beach to meet the public demand and protect beach users.

54. Mr Yeung Kwok-kuen said that in designing the beach, every effort had been made to minimize environmental impacts of the project. After the EIA process, the project would be submitted to the Legislative Council Public Works Subcommittee and Finance Committee for further consideration.

(The project proponent team left the meeting at this juncture.)

Internal Discussion Session

55. On the ecological assessment, the Chairman considered that it was important to consider whether the ecological assessment conducted had provided all the necessary information for the Council to make a balanced decision.

56. Mr Joseph Sham said that the project proponent had provided necessary information under all stipulated requirements and the surveys conducted had met the requirements. He highlighted that the purpose of ecological baseline survey for EIA was not to produce a complete inventory of all the species in the study area. The objective was to fill information gaps after a comprehensive literature review in order to establish the ecological characteristics of the site and to ascertain the presence of ecologically important features. In this context, there was no basic contradiction between the two lists. As indicated in the EIA report, the most important finding was that Lung Mei was primarily a typical soft shore with no particular species of conservation importance.

57. Mr Joseph Sham further explained that it was difficult to verify the 106 species without knowing the sampling method, survey location and effort. Adopting the precautionary principle, it was assumed that the species were found in the project site. Among them, only the Goby was in the IUCN Red

List. In view of the high mobility of this species, the impacts on them would not be significant. According to available scientific literature, the Goby lived in river mouths, intertidal or shallow subtidal waters and were not restricted to intertidal zone where the proposed project might have impact. There were extensive similar habitats locally. The distribution of this species was rather extensive from the Pacific Ocean to the Indian Ocean and was recorded in other places in Hong Kong such as Plover Cove. Moreover, identification of the Goby group of fishes was rather difficult and it was easy to mix them up with other species of similar outlook.

58. Mr Alan Chan added that among the 106 species reported, at least 40 were subtidal species with a wider range of habitat such as fish, crabs and prawns. They were more mobile and unlikely be subject to significant impact from the project.

59. A Member considered that there should be specific reasons for the Goby to be included in the IUCN Red List and it should be cautious about the possible extinction of this species. Moreover, she noted that the two check points where the project proponent conducted the surveys were fairly close. She expressed reservation about the findings of the EIA report.

60. Mr C W Tse advised Members for information that the TM had specified clear evaluation criteria for considering whether the species found in a site or habitat were of ecological importance, including protection status, distribution and rarity. Since the number of species found in a survey was one of the many factors for evaluating the ecological value of a site, it was important to consider the nature and ecological importance of the species based on the criteria. As a general practice, EIA reports submitted by project proponents would be circulated among relevant authorities and government departments for examination before considered suitable for public inspection.

61. Mr Joseph Sham highlighted that it was important to assess the ecological characteristics and species composition of the sandy shore rather than counting the number of species found. He quoted a well-recognized research on local seashore ecology by Professor Morton which gave an account of 110 to 170 different marine fauna species found in sheltered soft shores. He said that the City University of Hong Kong had also conducted a territorial-wide survey on 40 soft shores recently which recorded as many as 305 species of marine fauna. He suggested Members to consider the reported list with reference to

these local publications.

62. A Member said that he took a visit to the site personally before the meeting. He observed that there were natural coastlines at the two sides of the project site. The site was a sandy area with some rocks and it was reasonable for the villagers to request for developing a beach. He considered that the Council had to trust the information and findings provided by the project proponent.

63. A Member said that he learnt from some old villagers that Lung Mei and Sha Lan nearby were sandy beaches many years ago. Thus, the villagers claimed that the project was to restore the old beach.

64. A Member considered that the record of 106 species reflected the diverse, vibrant seashore community of the project area. No matter whether the species were common or rare, they represented biodiversity. Developing an artificial beach in the middle of Tolo Harbour would inevitably affect the ecology of the area. Most of the natural coastline in the inner Tolo Harbour had disappeared.

65. A Member asked whether biodiversity of a site would be considered in assessing the ecological status. Mr C W Tse replied that biodiversity was a factor to be considered and it should be considered in the context of uniqueness and conservation value of the site. For information of Members, Lung Mei, as a typical sandy shore, might have about 110 species and there were over 150 km of similar sandy shore in Hong Kong.

66. A Member considered the quality of information and survey methodologies doubtful. The surveys were conducted only in the daytime in three consecutive months. It was difficult to cover the distinct seasonal changes of wet and dry seasons. From the economic perspective, he did not consider it worthwhile to spend public money to a beach with relatively poor water quality. A Member agreed that the findings of ecological surveys had yet to inspire confidence.

67. While noting Membersô views and concerns, the Chairman said that the EIA report had to be considered within the framework of the EIAO. Rejection of the report had to be based on justified and specific grounds. In view of the uncertainty on the presence of the Goby, additional work might be

required to clarify and ascertain the ecological status of the site.

68. A Member considered that the water quality was also an issue of concern. Ms Anissa Wong said that there was an existing management system to closely monitor beach water quality and consider closing the beach when the water quality was below the prescribed level. Moreover, the predicted water quality was based on the 60% sewerage connection rate. Concerted efforts would be made with the assistance of relevant government departments and local committees to increase the sewerage connection rate which would further improve the beach water quality.

69. A Member recalled that the current water quality criteria for bathing beach was established in around 1987 after a study conducted by Professor Kleevens of the Hong Kong University by correlating the bacteria count of water with the illness experience of beach users. He queried the use of annual geometric mean in measuring beach water quality which would level out the fluctuations.

70. Mr C W Tse advised that although the WQO of *E. coli* level of 180 cfu/100mL was calculated on a long term basis. The short term variation in water quality on individual days would be monitored under a weekly beach water quality monitoring and grading system through which the beach would be closed if the short term *E. coli* count was found to be very high. The same system was adopted for other beaches in Hong Kong.

71. The Chairman said that while the prediction of *E. coli* level of 126 cfu/100 mL complied with the criteria set out in WQO, he noted Membersô concern about the poor water quality. A Member considered that the project would invite beach users who would be sensitive receivers to be exposed to the beach water. A Member said that the Grade 3 water quality meant that 11 to 15 per 1,000 beach users would be exposed to minor illness. A Member considered that the Council should express concern about this issue.

72. A Member also expressed reservation about the size of the car park which was probably excessive. A Member considered that if the beach was to be developed, the number of 100 private car spaces was not high in view of the high demand of beach users in peak seasons and the presence of recreational facilities nearby.

Action

73. A Member reiterated his concern about the possible impact of erosion in case an old beach really existed. A Member said that the sand loss might be due to construction of the Plover Cove dam. A Member suggested that the Council should express concern about the sustainability of the sand.

74. The Chairman concluded that having considered various environmental impacts of the proposed project, majority of the Members had reservation on the sufficiency of the ecological information. As regards the other predicted environmental impacts, the Council was of the view that they were generally acceptable and the EIA report could be endorsed with the following conditions ï

(a) the proposed beach development at Lung Mei should be opened only after the new sewerage system under ñTolo Harbour Sewerage of Unsewered Areas Stage 1 Phase IICò in Lung Mei area was completed;

(b) the project proponent should conduct regular monitoring on the water quality of the bathing beach in the first two years after the opening of the beach to assess the effectiveness of the water quality mitigation measures. The information should be provided to EPD for information and appropriate follow-up actions, if necessary;

(c) the project proponent should provide downward street lighting without flare to minimize impacts on star-watching activities; and

(d) the project proponent should review the scale of the project, particularly the size of the car park, and to take all necessary measures to reduce the footprint of the project.

The Council also suggested the project proponent to incorporate environmental education elements in the project to promote conservation and environmental protection, such as exhibition boards to promote mangrove and natural areas in Tai Po.

75. The Chairman said that as regards the ecological status of the beach, the Council observed significant discrepancy in the list of species between those reported in the EIA report and found by some members of the

public. While noting AFCDôs advice that the ecological survey undertaken by the project proponent had followed and fulfilled the requirements specified in the SB, TM and relevant Guidance Notes, Members remained doubtful of the sufficiency of the ecological data given in the EIA report. Members noted that at least one species sighted by members of the public might be near threatened and/or of conservation importance. In the absence of concrete evidence to prove or disprove the existence of such species, the precautionary principle should be invoked.

76. The Chairman suggested and Members agreed that, as a condition, the project proponent should be required to collate, provide, and/or to undertake any necessary work to furnish the additional information needed to confirm the ecological status of the habitat of Lung Mei Beach. The Council recommended the DEP to endorse the EIA report only if the additional information provided by the project proponent did not contradict the conclusion made in the EIA report that the overall ecological value of the beach was indeed a low one. Should rare or ecologically important species be found in the course of preparing the additional information, the project proponent should be required to formulate and implement a species translocation program to the satisfaction of the DEP prior to the commencement of any construction work. Should the project proponent apply for an Environmental Permit in future, these should be included in the conditions for approval.

77. The Chairman highlighted that the recommendation to endorse the EIA report with conditions was made entirely within the framework of the EIAO and TM. He noted that some Members had grave concerns about some other aspects of the project which were outside the framework of the EIAO. These include, in particular, the following ï

(a) while the proposed beach met the WQO for bathing beach, the water quality would nonetheless be graded poor or very poor for 38% of the time during the bathing season, and the beach might accordingly be closed for 14% of the time during the said period;

(b) the scale of the reclamation was probably excessive; and

(c) there was no convincing data in the EIA report to substantiate the claim that the sand deposited at Lung Mei to create the artificial beach would not be lost in the long term.

Action

Agenda Item 4 : Mandating the use of ultra low surphur diesel in industrial and commercial processes
(ACE Paper 2/2008)

78. Mr Benny Wong briefed Members on the proposal for mandating the use of ultra low sulphur diesel (ULSD) or cleaner diesel fuel in industrial and commercial processes and allowing the use of other fuels and technologies as an alternative means to reduce emissions. He highlighted that the proposal involved amendments to the Air Pollution Control (Fuel Restriction) Regulations (Cap. 311I).

79. A Member fully supported the proposal. He considered that it was necessary to ensure adequate supply of ULSD from oil companies and that no other types of diesel fuel would be available in the market. Otherwise, it would be difficult to prove that ULSD was used. Mr Benny Wong said that the oil companies indicated that they should have no problem for providing adequate ULSD for local consumption. Nonetheless, there would be difficulty to ban the supply of other types of diesel as the use of alternative fuels would be allowed provided that the prescribed emission levels would be met. The EPD enforcement teams would enforce the legislation to deter the use of inferior diesel in industrial and commercial processes. Sampling at industrial and commercial premises would be conducted and the samples would be analyzed at the laboratory for compliance verification. In reply to the Chairmanôs enquiry, Mr Benny Wong said that marine vessels would be an example which was not subject to the proposed mandatory use of ULSD.

80. In reply to a Memberôs enquiry, Ms Anissa Wong explained that the incentive scheme to encourage owners of pre-Euro and Euro I diesel commercial vehicles to replace their vehicles by offering one-off grant was related to the vehicles. In terms of fuel standard, the Administration had provided a concessionary duty rate for Euro V diesel for a period of two years from December 2007 to encourage the use of more environmental-friendly fuel. The concessionary duty rate per litre for Euro V diesel was about half of that for ULSD for vehicles. ULSD for industrial and commercial processes was duty-free. The current proposal of mandating the use of ULSD or cleaner diesel fuel in industrial and commercial processes would cover all the sectors, including construction activities and generators, other than the marine sector.

81. The Chairman asked the timing to bring marine sector under

control. Ms Anissa Wong said that EPD had been liaising closely with the Marine Department and the Transport and Housing Bureau on the issue related to local ferries. There were some complications, including technical compatibility of the vessel engines to use ULSD and possible implications of the increased fuel costs on ferry fares. The domestic ferry business was facing a less than favourable market situation. A working group comprising representatives from relevant government departments was set up to look into the technical issues and implications involved before a firm recommendation would be put forward.

82. The Chairman said that while there were constraints on the use of ULSD by ferries, he hoped that a more concrete time frame could be worked out to plan the way forward. Reference could be made to buses which were using ULSD with increased fuel costs built in the bus fares.

83. A Member fully supported the proposal as the use of ULSD would significantly reduce the emissions of SO_2 and RSP as compared with industrial diesel. He urged the Administration to extend the use of ULSD to the marine sector as he noted increasing number of complaints related to emissions from marine vessels.

84. In reply to a Memberôs enquiry, Mr Pang Sik-wing said that the maximum penalty for contravention of the provision was a fine of $20,000 and a possible imprisonment of six months as well as a daily fine of $5,000 if the offence was proved to be continued.

85. The Chairman concluded that the Council was supportive of the proposal which would help further improve the air quality in Hong Kong. The Council hoped that emissions from marine vessels could be brought under control in the near future.

Agenda Item 5 : Promotion of cleaner production in the Pearl River Delta region

(ACE Paper 3/2008)

86. A Member declared interest for the Hong Kong Productivity Council (HKPC), in which he served, was commissioned by EPD to launch the cleaner production programme. Members noted that he would join the presentation team in presenting the proposal.

Action

87. Miss Mary Tsang briefed Members on the background and details of the proposed five-year Cleaner Production Partnership Programme (CPPP) for promoting cleaner production (CP) technologies and practices amongst Hong Kong-owned factories in the Pearl River Delta (PRD) region. She highlighted that the HKPC would be an implementing agent to work closely with the environmental technology service providers for the programme. Funding approval of $93.06 million had been given by the Legislative Council Finance Committee.

88. A Member supported the proposal. She asked whether the Administration and HKPC would help the small and medium-sized enterprises (SMEs) to meet the statutory requirements under relevant environmental regulations in the PRD region if they had not done so. Mr Tsang Kam-lam explained that the main objective of CPPP was to assist the factories, especially SMEs, to reduce air emissions and improve energy efficiency. The concerned factories were required to comply with all the relevant environmental regulations.

89. A Member totally supported the proposal. He considered the CPPP a pro-active measure as funding and resources would be provided to the SMEs in the Mainland to help reduce air pollutant emissions and improve the air quality in the PRD region.

90. A Member said that the proposed funding could only support about 1,000 Hong Kong-owned factories while there were as many as 56,000 factories in the region. Miss Mary Tsang explained that the objective of the programme was to encourage and facilitate Hong Kong-owned factories in the PRD region to adopt CP technologies and practices through awareness promotion. By launching the scheme, it was hoped that the Government could play a leading role in spearheading and motivating the factories by means of demonstration projects to encourage the industrial sector to adopt CP technologies. Moreover, depending on the outcome of the programme, there could be possibility for future expansion of such cleaner production initiatives.

91. A Member suggested that sending information to target groups through their websites would be a useful and efficient means to reach out and promote the schemes, such as by providing information on advanced CP technologies and equipment.

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92. The Chairman concluded that the Council supported the proposal, in particular the demonstration projects as well as the control and review mechanism, as promotion of CP was very important in improving the air quality in the PRD region. The initiative would benefit not only the environment, but also Hong Kong investors in the region in terms of economic benefits by enhancing productivity and efficiency in the long run.

Agenda Item 6 : Any other business

Illegal bridge traversing a natural stream in Tai Po

93. A Member suggested discussing the issue about an illegal bridge traversing a natural stream in Tai Po reported by the press in a future meeting.

(Post-meeting note: An information note on the background and latest development of the issue was circulated to Members after the meeting.)

EA Panel meeting on 28 January 2008

94. The Chairman informed Members that the Legislative Council Panel on Environmental Affairs would like to exchange views with Council Members regarding the issue on greenhouse gas (GHG) emissions at the Panel meeting on 28 January 2008, particularly on the need to include carbon dioxide (CO_2) in the Administrationôs emissions reduction targets. The issue was briefly discussed under the proposal of amending the Air Pollution Control Ordinance at the Council meeting on 10 December 2007.

95. Mr Carlson K S Chan informed Members that the issue of GHG emissions was discussed at the Panel meeting on 28 May 2007. A paper was being prepared by the Administration as an update on the efforts and initiatives in addressing climate change for the meeting on 28 January 2008. The paper would cover areas, such as reasons for not setting emission reduction target for GHG; additional measures which could be taken to reduce GHG emissions; and work progress of the inter-departmental working group on climate change.

96. Mr Carlson K S Chan explained that the principal source of GHG emissions was power generation, which accounted for over 60% of the GHG emissions. In Hong Kong, over 50% of the electricity was generated from coal burning. At present, there was no mature and commercially viable technology

in the world that could reduce, capture and store the GHG discharged from the burning of fossil fuels. Therefore, GHG emissions from power generation could only be substantially reduced by changing the fuel mix. However, changing the fuel mix for power generation required careful consideration of a number of important and careful issues such as stability in power supply and electricity tariff. In the context of international efforts to tackle climate change, the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol were extended by the Central Peopleôs Government to Hong Kong in 2003. As with other non-Annex I Parties which had ratified the Protocol, China (including Hong Kong) was not required to commit to any limits or reduction of GHG emissions. Nonetheless, the HKSAR Government would make every effort to reduce GHG emissions such as by enhancing energy efficiency.

97. A Member considered that it was pre-mature at this stage to set a cap on CO_2 emission as it would require the availability of appropriate emission reduction technologies and more studies were required. The emissions reduction targets on SO_2, NO_x and RSP were set after thorough studies and research. Nonetheless, every effort should be made to reduce GHG emissions and to keep pace with the international development.

98. Two Members said that while noting the technical constraints, the setting of emission reduction targets on CO_2 should be pursued in the long run after detailed studies. A Member considered that the emission reduction target on CO_2, if set in the long run, should be applied to all sectors rather than only to the power companies.

99. A Member said that while Hong Kong was part of China under the international conventions, Hong Kong being a developed city should aim at a higher level of achievement.

100. A Member considered that the long-term direction should not necessarily be an imposition of a cap. The objective should be to reduce GHG emissions gradually by phases by means of a multi-pronged approach.

101. The Chairman concluded that it was not opportune to impose a cap on CO_2 emission on power plants given the technical constraints and fuel mix considerations. Nonetheless, the setting of emission reduction target on CO_2 should be pursued in the long run, with regard to international development.

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The reduction of GHG emissions should be pursued by a multi-pronged approach in the long run.

Tentative items for discussion at the next meeting

102. The agenda was being compiled. Members would be informed in due course.

Agenda Item 7 : Date of next meeting

103. The next meeting was scheduled for 14 February 2008.

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