Confirmed Minutes of the 142nd Meeting of the Advisory Council on the Environment held on 14 May 2007 at 2:30 pm

Present:

Prof LAM Kin-che, SBS, JP (Chairman)
Dr Dorothy CHAN, BBS
Mr James GRAHAM
Mr Edwin LAU
Dr MAN Chi-sum, JP
Dr NG Cho-nam, BBS
Prof POON Chi-sun
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)
Ms Betty HO
Prof Howard HUANG
Prof Paul LAM
Ms Goretti LAU
Mr Markus SHAW

In Attendance:

Ms Anissa WONG, JP	Permanent Secretary for the Environment, Transport and Works (Environment)
Dr WONG Fook-yee	Assistant Director (Country and 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 Raymond FAN	Deputy Director of Environmental Protection (2), EPD

Dr Malcolm BROOM	Assistant Director (Water Policy), EPD
Mr Edmond HO	Principal Environmental Protection Officer (Waste and Water Science), EPD
Ms Amy CHAU	Acting Senior Environmental Protection Officer (Waste and Water Science) 2, EPD
Dr Andrew JACKSON	Managing Director, ERM- Hong Kong Limited
Mr Jason CLAY	Principal, Technical Practice Leader Risk Assessment, ERM Australia Pty Limited
Mr Kalvin LAI	Consultant, ERM-Hong Kong Limited

In Attendance for Agenda Item 4 :

Mr Joseph SHAM	Senior Marine Conservation Officer (West), AFCD

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Action

Agenda Item 1 : Confirmation of the Draft Minutes of the 141st Meeting held on 19 April 2007

The draft minutes were confirmed without amendments.

Agenda Item 2 : Matters Arising from the Minutes of the 141st Meeting held on 19 April 2007

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

Agenda Item 3 : Risk-Based Remediation Goals as Contaminated Land Standards for Hong Kong
(ACE Paper 11/2007)

3. Mr Edmond Ho briefed Members on the background of replacing the outdated Dutch B standards by the risk-based remediation goals (RBRGs) in contaminated land management. He highlighted that relevant stakeholders had been consulted on the derivation and practical application of the proposed RBRGs. The comments and suggestions had been incorporated in the draft Guidance Manual and RBRGs. Mr Jason Clay briefed Members on the details of the risk-based approach and the proposed RBRGs.

4. In reply to the Chairman's enquiry about the comparison between the RBRGs proposed for Hong Kong and the new Dutch standards, Mr Jason Clay said that the number of chemicals of concern (COCs) in the Dutch framework of

intervention values was more than that in the RBRG list. He highlighted that the set of COCs in the RBRG list was a set of land use specific values specifically designed for Hong Kong taking into account the local environmental conditions, physical setting and activities for health protection. The Dutch values employed the concept of multifunctionality by applying one set of standards to all types of sites, covering protection of human and ecological health. The requirements for cleaning up different types of sites were the same for achieving a uniform quality of soil and underground water. The framework had exhibited some limitations in application and the authority started to apply a tiered system to prioritize the urgency for immediate actions. Mr Edmond Ho added that the COCs selected were chemicals that were actually found and in use locally.

5. Upon the Chairman's enquiry about the coverage of ecological health in contaminated land assessment and remediation, Mr Jason Clay explained that the new standards had taken into account the specific situation of Hong Kong in which the majority of the land uses would involve mainly human activities. When ecological health was involved, assessment and remediation would be covered by a different set of standards. Mr Edmond Ho added that the underlying principle for focusing on human health in the new standards was premised on the understanding that it was highly unlikely, for example, that a contaminated site in Hong Kong would be redeveloped for agricultural uses or changed to a nature conservation area. In the rare event that protection of ecological resources was necessary at a contaminated site, a focused ecological risk assessment based on established guidelines would be conducted to assess the ecological risks, in addition to the application of the RBRGs.

6. A Member enquired about overseas examples of standards in assessing only human health but not ecological health in contaminated land management. Mr Jason Clay said that, to his knowledge, the Dutch framework was a rare example which took into account both human and ecological health. For the US Environmental Protection Agency (USEPA) and World Health Organization, there were separate sets of standards for the protection of human and ecological health. The preliminary remediation goals adopted by many states, such as California and Virginia, involved separate sets of standards or guidelines for health protection, tap water and air quality.

7. A Member was concerned about the standards for contaminated land assessment in the context of the environmental impact assessment (EIA) process. As the Dutch B standards were a uniform set of conservative standards intended to

be protective of both human and ecological health, the introduction of RBRGs would mean that another set of standards would be required for assessing ecological health which might cause confusion. Dr Andrew Jackson explained that under the EIA process, contaminated land assessment and remediation would be relevant to the post-restoration land uses. The RBRGs sought to protect human health and were designed to correlate the level of remediation with the type of future land use. If other receptors, such as ecology, would be potentially impacted, an additional assessment would be required by using a separate set of standards.

8. A Member said that as many of the project sites were along the seafront, the impacts of contaminated groundwater and surface runoff on the marine environment, including seafood, had to be properly assessed under the EIA process. Mr Jason Clay explained that if the project proponent identified that the contaminated site would have potential impacts on marine ecology, a separate set of standards had to be used. He highlighted that the current Dutch B standards did not cover impacts on marine ecology, seafood and drinking water quality.

9. A Member observed that the unit for measuring concentration limit of drinking water in the Dutch B standards was μg/L which was much lower than the unit of mg/L used in RBRGs. He was concerned that the exposure scenarios had not taken into account the indirect transmission of pollutants through groundwater. Another Member said that the standards were used for contaminated land assessment. Other indirect exposure had to be covered by different sets of standards, such as those for drinking water and seafood.

10. Dr Malcolm Broom explained that the proposed standards were used for assessment and remediation of a contaminated site which would be redeveloped for other uses. It was not intended to be a set of universal standards to be applied in a homogenous sense. Under the EIA process, there would be impact assessment in respect of the project site if decommissioning would be required for other land use(s). The level of remediation would be dependent on the end use of the site. Ecological risk assessment on contaminated land would unlikely need to be applied in Hong Kong. Nonetheless, the assessment would be considered on a case-by-case basis.

11. The Chairman said that the crux of the matter was whether there were established mechanisms to ensure that ecological health in contaminated land assessment and remediation would not be impaired, if necessary, after

adopting the new standards. Dr Andrew Jackson said that under the EIA process, decommissioning of a site would not only involve issues of soil and ground water but also surface runoff and its impacts on marine ecology. There were sufficient provisions in the project study brief, Technical Memorandum on Environmental Impact Assessment Process (TM) and prevailing regulations to cover the areas of concern.

12. A Member noted that the last few lines in the second paragraph of section 2.4 of the draft Guidance Manual stated that "In the rare event that protection of ecological resources becomes necessary at a particular site, a focused ecological risk assessment may need to be carried out to assess the ecological risks, in addition to applying the RBRGs". He suggested that the words "may need to" should be changed to "should" to ensure that the appropriate control mechanisms would be in place. Dr Andrew Jackson said that the suggestion would be taken into consideration in fine-tuning the Guidance Manual.

13. A Member said that the proposed system was a fairly standard international practice for environmental health protection. He was satisfied with the standard of one in a million cancer risk for carcinogens which was at the conservative end. Mr Jason Clay said that the RBRGs were based on very conservative assumptions for health protection by adopting the concept of a maximally exposed individual. The exposure factors were based on well-recognized international sources and tailor-made for the Hong Kong situation.

14. A Member considered that it was important to ensure that the assessment of exposure would be properly conducted as it was an area liable to wide variations and interpretations based on different assumptions. He enquired about the assessment approach of mixtures of compounds as the RBRGs were developed on the basis of individual compounds. As revealed in the contaminated land assessment in the Cheoy Lee Shipyard decommissioning project, a number of compounds with a high level of contamination were found and some of them were carcinogenic. Mr Jason Clay explained that the RBRGs, as with the Dutch B levels, were considered to be sufficiently health protective to be used on an individual basis. The concentration of each RBRG was designed to be at a level that would not give rise to an observable effect, i.e. it would have no effect. Combining a series of chemicals at "no effect" concentrations was considered to result in no overall effect. The explicit assessment of chemical mixtures was therefore considered not necessary. Moreover, most of the

contaminated sites would involve mainly one to two dominant compounds for remediation purposes. Remediation works for these compounds would effectively reduce all other compounds on the site.

15. Dr Andrew Jackson said that the model had adopted a very conservative set of exposure scenarios. The risk level of one in a million cancer risk for carcinogens was very conservative. He highlighted that the assessment was not based on the absolute risk level before remediation but the reduced level after remediation. Even there were a few chemicals involved, the overall risk level was still very low.

16. A Member asked about the impact of contamination on the nearby downstream sites, such as agricultural land, which might be affected by the contaminated groundwater. Mr Jason Clay explained that the assessment would focus on the specific contaminated site. A separate site assessment had to be conducted for off-site locations to assess whether there would be migrating contamination. Mr Edmond Ho added that the Dutch B standards similarly could not address the issue of off-site migration which had to be dealt with by relevant environmental ordinances. Enforcement actions under the appropriate ordinance would be taken if there was evidence to show that there was off-site migration of contamination from a certain site.

17. Mr P Y Tam considered that the four types of land use scenarios for application of the RBRGs, i.e. urban residential, rural residential, industrial and public parks, were too broad-brushed in comparison with the land use framework in Hong Kong. He considered that the system should be able to facilitate the users to focus on the potential risk of exposure and contamination to the people on the concerned sites. Even for parks, there could be many users. The redevelopment of an industrial site to a public park, such as the use of Cheoy Lee Shipyard site for the Disneyland theme park, might expose the hotel visitors and park users to contamination. Other land uses, such as racecourse and university campus, could also be patronized by many people and yet they would be difficult to be classified and properly addressed under the over simplified four land use scenarios. A Member asked about the basis for the classification of the land use scenarios.

18. Mr Edmond Ho explained that the four scenarios were post-restoration land uses which reflected the typical physical setting in Hong Kong under which people could be exposed to contaminated soil and

groundwater. While there was a wide spectrum of land uses in Hong Kong, only four typical categories were developed in order not to complicate the system. Under the Dutch B standards, only one set of standards was used. Under the RBRGs, four sets of standards were developed which reflected that the means by which people came into contact with contaminated soil and/or groundwater were largely dependent on the type of land use. For a combination of different land uses, the project proponent had to justify which category or a mixture of categories would be most appropriate for the proposed land use.

19. Mr Jason Clay explained that the four land use scenarios in fact were four types of exposure scenarios which were not really sophisticated in terms of their difference. The levels of exposure were not greatly different in the exposure models given the very conservative assumptions. For example, the assumption under the "industrial" scenario was that a person would stay in the site for 300 days per year while a person under the "residential" scenario would stay 350 days per year. Under the "public parks" scenario, including racecourse, it was assumed that a child would be exposed to the contaminated soil 104 days per year and ingest 200 mg of soil per day and roll about in the soil covering 1,500 cm^2 of his body with 0.2 mg/cm^2. This was considered a very conservative scenario, unlikely to eventuate in practice. If the set of standards under the "public parks" scenario was considered not sufficiently stringent, EPD could request the project proponent to use a more stringent set of standards, such as those under the "rural residential" scenario.

20. Ms Amy Chau explained that the four land use scenarios represented four different sets of exposure assumptions. For any future land use categories falling outside the four categories, the user would be required to compare the exposure characteristics of the site with those described for the four categories and identify one category that most closely matched the exposure characteristics of the site. For example, if a school site had exposure characteristics most similar to that of the "rural residential" scenario, the RBRGs specified for the "rural residential" scenario should be adopted for the school site.

21. In reply to the Chairman's enquiry about the relative stringency of the four land use scenarios, Mr Edmond Ho said that the set of standards under the "rural residential" scenario was the most stringent and followed by "urban residential", "public parks" and "industrial" which mainly based on the level of exposure.

22. A Member said that under the "public parks" scenario, there might be different land use activities. For example, some parts of the park might be used for small-scale agricultural activities. Dr Andrew Jackson said that the "public parks" scenario was intended for urban park setting and did not explicitly account for food chain exposures such as might result from agricultural activities. In that case, the site investigators would need to undertake a more detailed risk assessment by using more appropriate criteria on agricultural activities and consult EPD in submitting their assessment plans.

23. The Chairman suggested that the Guidance Manual should spell out explicitly, in the preamble rather than in the appendix, that should there be any case falling outside the four land use scenarios which put the surrounding ecology or food safety at risk, appropriate measures should be taken. This would guarantee no missing gaps in the application of the new standards.

24. The Chairman said that he had confidence in the EIA process. He was more concerned about the control mechanism over changes in land use and land leases outside the framework of the EIA Ordinance. Mr Edmond Ho explained that the land contamination management regime involved mainly three control mechanisms. First, the EIA Ordinance covered the designated projects. Second, the planning permissions under the Town Planning Ordinance (TPO) imposed conditions on the change of land use. Third, the Decontamination Clause in land lease conditions and land documents covered the change of land leases. Project proponents under the three situations were required to carry out land contamination assessments. They had to submit the Contamination Assessment Plan (CAP) and Contamination Assessment Report (CAR) for approval by EPD. When remediation was required, the project proponent would have to submit a Remediation Action Plan (RAP) for endorsement by EPD and submit a remediation report after taking remediation actions. He highlighted that the introduction of the RBRGs would not change the contaminated land management regime and related control mechanisms.

25. A Member said that the land use issue in Hong Kong was very complicated. He asked whether there would be any mechanism which would trigger action for contamination assessment for sites which had been deployed for temporary use, such as sites zoned as agricultural land or green belt but temporarily used for open storage which might cause contamination. He considered that information on past land uses and activities, including temporary land use, would be useful in considering the need for contamination assessment.

Another Member quoted the example that if the Cheoy Lee Shipyard site was not changed to a theme park but sold for other industrial uses, the problem of land contamination might go unnoticed.

26. Dr Andrew Jackson said that decommissioning projects such as the Cheoy Lee Shipyard would be governed under the EIA Ordinance even if the site was changed for other industrial uses. For change of land ownership outside the framework of the EIA Ordinance, the conditions of the leases would require the party surrendering the site to ensure that the site would be in a condition fit for other purposes. There would be administrative procedures required by the Lands Department which would also consult various parties, including EPD on matters relating to land contamination. For change of land use through planning permissions, EPD was one of the consultees in commenting on the zoning applications.

27. The Chairman opined that land uses, particularly in Hong Kong, changed quickly. Dr Andrew Jackson said that the set of standards were intended to be protective of human health. Project proponents were required to submit CAP and CAR based on the most appropriate set of standards upon change of land use for approval by EPD.

28. Dr Malcolm Broom said that the issues raised seemed to be more related to land use administration. The switch from the outdated Dutch B standards to the RBRGs had not changed any of the prevailing land use policy and administration. It aimed at introducing a more cost-effective approach and bringing Hong Kong in line with the most updated international practice in contaminated land management.

29. The Chairman said that while the paper focused on a new assessment approach, land contamination was an issue which Members and the general public had expressed concerns and expectations which had to be dealt with in a wider context. A Member supported the new set of standards. He appreciated that the proposal focused on a set of new standards rather than new legislations for handling the overall issue of land contamination.

30. A Member said that the RBRGs seemed to focus on specific purposes. He asked whether the new set of standards would narrow the scope of application which could not be applied to some situations originally covered by the Dutch B standards. Mr Jason Clay said that the Dutch B standards were

outdated and replaced by the Dutch intervention values. The RBRGs would be applicable to the majority of the situations in Hong Kong. In the event that a compound was identified which was not covered by the RBRGs, other international standards could be used.

31. A Member drew Members' attention to section 3 of the Guidance Manual which stipulated the steps for applying RBRGs in contaminated land assessment, including ways to identify land use and select COCs. She considered that the guidelines in this section could be further refined by taking into account Members' views and suggestions. Another Member suggested that there should be further elaboration in section 3 of the Guidance Manual and briefings should be conducted where necessary, particularly on the application of the "public parks" scenario. It was increasingly common for a public park to incorporate different functions. A more stringent set of standards might be required for a public park if some areas were used for agricultural activities.

32. A Member noted that RBRGs had been developed for 54 COCs and asked why some of the contaminants, such as micro-organism contaminants, radioactive contaminants and contaminants due to physical properties such as asbestos which were widely used in Hong Kong, were not included. Mr Jason Clay explained that the list of compounds varied greatly among different countries. For example, there were about 400 COCs in the USEPA framework, about 60 in the Dutch framework and about 12 in the UK framework. The 54 COCs in the RBRG list were the most commonly found compounds in Hong Kong. When a compound outside the list was considered as a chemical of concern, the project proponent should seek the advice of EPD with reference to international standards. For asbestos, there were very limited guidelines available worldwide on the appropriate level of exposure and it was extremely difficult to quantify the level of asbestos fibres in the soil. Mr Edmond Ho said that asbestos was rarely included in COCs in overseas countries and it was controlled by the Air Pollution Control Ordinance in Hong Kong. Another Member said that the standard of asbestos fibres was expressed as numbers of fibres per unit volume of air rather than in the soil. There was no available standard for asbestos fibres in soil.

33. A Member made some comments and suggestions on some of the terminologies used in the Guidance Manual. He considered that the unit "g/mol" was not a common measuring unit for molecular weight. The term "detection limit" was used too liberally. It should be more specific in differentiating

"method reporting detection limit" or "instrumental detection limit". The Non-aqueous Phase Liquids Assessment Flowchart in Figure 3.3 of the Guidance Manual could be further simplified as the step of field assessment would have to be conducted under all circumstances in the flowchart. Mr Jason Clay said that there was a set of units used in the field of risk assessment and they would review the unit used for molecular weight. The "detection limit" mainly referred to "method reporting detection limit" and they would make it clearer. They would consider simplifying the flowchart in Figure 3.3.

34. The Chairman enquired about the RBRGs for polycyclic aromatic hydrocarbons (PAH) and arsenic which were derived by using a slightly different approach. Mr Jason Clay confirmed that the approach for deriving the RBRGs for PAH and arsenic was also risk-based. PAH was a family of relatively complex chemicals for which the majority of toxicological information related to one compound. The reference was mainly from the USEPA which adopted a very conservative approach. The draft RBRG for arsenic was initially set at the median background concentration for arsenic in Hong Kong. This was considered too low and thus an alternative approach was adopted which involved the use of suitable toxicity criteria in calculating a risk-based value. The risk level for arsenic varied greatly between different countries depending on the background level in the soil of each country, such as 20 mg/kg in the UK framework, 100 mg/kg in the Australian framework, 150 mg/kg in the Japanese framework and 260 mg/kg in the Dutch framework for human protection. After reviewing the background level in soil in Hong Kong and international standards, they selected the toxicity level from the UK Department of Health which was considered a very conservative level for application to Hong Kong.

35. In reply to the Chairman's enquiry about the implementation plan, Mr Edmond Ho said that there was no need to amend the TM for implementing the set of new standards as the TM only made reference to a set of guidelines issued by the Director of Environmental Protection (DEP). The new Guidance Notes (including the Guidance Manual and background document) would take effect and supersede the current Professional Persons Environmental Consultative Committee (ProPECC) Note upon the promulgation by the DEP. They would allow a transitional period of about three months before fully implementing the new standards.

36. A Member enquired about the review mechanism of the chemical toxicity data. Mr Edmond Ho said that the department would keep track of the

international trend of the chemical toxicity data and consider the need for updating the standards having regard to the impacts on the stakeholders.

37. A Member said that the subject was very technical and the set of new standards were more complicated than the Dutch B standards which had been in use for over 10 years. He considered that assistance should be provided to stakeholders and relevant parties to facilitate them in understanding and complying with the new standards. Mr Edmond Ho said that they would conduct training to relevant Government departments as users of the guidelines as well as staff members of EPD who would offer advice to stakeholders. Mr Raymond Fan added that assistance would be provided to stakeholders and users of the guidelines in the private sector whenever necessary.

38. A Member was still concerned about the issue of ecological health in contaminated land assessment which was not clearly spelt out in the document. He requested that supplementary information on the existing legislative control and measures on ecological risk assessment of contaminated land be provided to facilitate Members' understanding of the issue.

39. The Chairman said that the paper proposed a fundamental change to the approach of contaminated land assessment and remediation which had been used for over 10 years. The outdated Dutch B standards covered human, local plants and animals for any type of land use while the RBRGs focused on the protection of human health based on different post-restoration land uses under local conditions. Given the background and information provided, the key considerations were –

(a) Was the rationale behind the proposal for switching from the outdated Dutch B standards to the new risk-based approach agreeable?

(b) Were the safeguards contained in the new standards both in terms of scope of coverage and level of stringency adequate?

(c) Were the new risk-based standards an effective approach to deal with contaminated land assessment and remediation taking account of prevailing international practices?

40. On consideration (a), Members agreed that the rationale behind the proposal for switching from the outdated Dutch B standards to the new risk-based

approach was sound and agreeable.

41. On consideration (b), the Chairman noted that the scope of coverage mainly based on four land use scenarios which covered most of the post-restoration land use for contaminated land in Hong Kong. Regarding the control of contaminated land in Hong Kong, there were provisions under the EIA Ordinance or conditions imposed through planning permissions under the TPO or in land leases. The project proponents under all these situations had to conduct contaminated land assessment. Regarding the existing legislative control and measures on ecological risk assessment of contaminated land, supplementary information would be provided. On the level of stringency of the standards, Members agreed that the standard of one in a million cancer risk for carcinogens as the Maximum Allowable Risk Level was acceptable.

42. Ms Anissa Wong said that the subject was very technical. The development of the new standards had been conducted through an elaborate process including consultations with stakeholders. It was an improvement to the outdated standards by taking into account the international trend and specific situation of Hong Kong and directly relating the standards to the post-restoration land uses. Members had raised a number of issues relating to the standards, land use administration and application of the broad land use scenarios. On the standards, the department would provide supplementary information on the existing legislative control and measures on ecological risk assessment of contaminated land and other related issues. On land use administration, the department would work very closely with the relevant Government departments and the Town Planning Board as EPD would be consulted on the land use changes, including temporary land use, and would consider the best way of incorporating the implications of the RBRGs into the land use administration. On application of the four land use scenarios, she assured Members that there would be further elaborations and refinements in the Guidance Manual for giving advice to the users on the actual application of the broad categories to each individual case so as to ensure that the most appropriate set of standards would be used. EPD

(Post-meeting note: The supplementary information requested was sent to Members after the meeting.)

43. On consideration (c), the Chairman said that the proposed standards sought to provide a new approach for contaminated land assessment and could not

address the overall policy and all the problems related to land contamination. The introduction of the risk-based approach was an important step. Members agreed that relevant Government departments and stakeholders had to work closely in ensuring that the new risk-based standards would be an effective approach to deal with contaminated land assessment and remediation problems taking account of prevailing international practices.

44. The Chairman concluded that the Council supported the set of new standards which adopted a risk-based approach to contaminated land management. Members made the following suggestions to refine the Guidance Manual and the implementation process –

(a) while the new standards focused on human health, sufficient measures should be put in place to ensure that ecological health in contaminated land assessment and remediation would be addressed where necessary;

(b) although the RBRGs were developed for four different post-restoration land use scenarios, there should be clear guidelines on the application of the different categories of land use standards given the complicated land use problems in Hong Kong (including temporary land use);

(c) it was important to ensure that the assessment of exposure would be properly conducted as it was an area liable to wide variations and interpretations based on different assumptions;

(d) a review mechanism should be put in place to ensure that the standards would be updated in line with international trend;

(e) assistance should be provided to stakeholders and relevant parties to facilitate them in understanding and complying with the new standards;

(f) EPD should work closely with relevant Government departments and stakeholders in the implementation process; and

(g) some suggestions on the units of measurement for chemicals and wording in the manual as elaborated in paragraphs 12, 23, 31 and 33 above.

Action

Agenda Item 4 : Any Other Business

Re-organization of policy bureaux of the Government Secretariat

45. The Chairman informed Members that the Chief Executive had announced on 3 May 2007 the plan to reorganize the Policy Bureaux of the Government Secretariat with effect from 1 July 2007. Pursuant to the reorganization, an Environment Bureau would be formed to establish a more focused structure to deal with environment related issues. Sustainable development and energy policies, which were closely related to environmental protection, would be put under the same bureau. In terms of organizational changes, the Sustainable Development Unit currently under the Chief Secretary for Administration's Office and the Energy Division currently under the Economic Development and Labour Bureau would be put under the purview of the Environment Bureau.

46. Ms Anissa Wong said that the proposed organizational changes in respect of the Environment Bureau aimed at enhancing the synergy and sharing of expertise among the policy areas of environmental protection, energy and sustainable development. The Council would continue to be under the umbrella of the Environment Bureau and there would be no changes to the secretariat support to the Council. She looked forward to the continued support of the Council in meeting the challenges ahead.

Liquefied natural gas terminal project

47. The Chairman referred to a Member's email to all Members on 4 May 2007 attaching an open letter from the World Wide Fund for Nature Hong Kong (WWFHK) to the Director of Agriculture, Fisheries and Conservation expressing his concerns over the impact of the seawater re-gasification process at the proposed Liquefied Natural Gas (LNG) terminal project at South Soko. Dr Wong Fook-yee said that he would like to make a brief response to the Member's email and WWFHK's open letter which mainly focused on four areas –

(a) impact on fisheries resources;
(b) impact on Chinese Bahaba;
(c) compensation to the fishing community; and
(d) problems related to the "open-loop" system.

Action

48. Dr Wong Fook-yee made the following response to the above issues –

(a) Impact on fisheries resources – A comprehensive assessment had been made in the EIA report on the impacts of the LNG terminal project and the seawater intake/discharge system on fisheries resources which were elaborated in Part 2 section 6 paragraphs 9 to 10 and Part 2 section 10.5. While the EIA report recognized that there would be negative impacts on fish eggs and larvae under the impingement and entrainment mechanisms of the proposed seawater intake/discharge system, the EIA report concluded that with the implementation of suitable mitigation measures, the system would not cause significant impacts to the fisheries resources. The impacts on fisheries resources would depend very much on the sensitivity of the production of fish eggs and larvae of the seawater in the vicinity. The proposed seawater intake/discharge points were located in an area where no significant difference in abundance or diversity of fish eggs or juvenile fish was recorded when compared with areas in the southern waters of Hong Kong over a nine month survey period. Moreover, the project proponent had undertaken to take mitigation measures to improve the impingement system in order to reduce the intake of fish eggs and larvae. While the open letter had quoted some figures on the mortality rate of fish eggs and larvae, it would be difficult to generalize the mortality rate which would depend very much on factors such as species, season, food availability and presence of predators.

(b) Impact on Chinese Bahaba – WWFHK's open letter mentioned the impact of the LNG terminal project on the endangered species Chinese Bahaba which might spawn in Hong Kong's western waters. The Chinese Bahaba belonged to a fish family, called ***Sciaenidae***, which comprised a number of croaker species commonly found in Hong Kong waters. According to the EIA report, species belonging to the croaker family were found in the South Soko area but not the actual Chinese Bahaba fish itself. In fact, from records of other surveys conducted in the area since 1998 also yielded no record of Chinese Bahaba in the area around South Soko.

(c) Compensation to the fishing community – the LNG terminal project was a private project and the issue of compensation to the fishing community, if any, would have to be negotiated between the project proponent and the fishing community.

(d) Problems related to the "open-loop" system – the information provided by the Member suggested that "open-loop" or "open-rack vapourization (ORV)" LNG terminal projects were rejected in the US on the basis of fears of damage to marine and fisheries resources. Based on the information available, the US authorities had not prohibited the use of ORV system for LNG terminal projects. Three applications for LNG terminal projects using ORV system had been approved by the US authorities since 2002. One application in Louisiana had been rejected which was quite different from the case of Hong Kong. There were different schools of thoughts on merits and demerits of using the "open-loop" or "close-loop" systems.

Progress on the Policy Framework for Management of Municipal Solid Waste

49. A Member said that during the Waste Management Subcommittee meeting held in April 2007, Members expressed concern about the progress of the initiatives under the Policy Framework for the Management of Municipal Solid Waste (Policy Framework), in particular the municipal solid waste (MSW) charging scheme and integrated waste management facilities (IWMF). Another Member said that after the completion of the three-month MSW charging trial scheme, the Administration proposed to conduct another year of study to develop options for MSW charging scheme. He considered that the proposed time frame too long and the target timetable in the Policy Framework could not be achieved.

50. The Chairman said that the Council was very concerned about the waste management issues and the progress of initiatives under the Policy Framework. He proposed that the Council be updated of the progress of major initiatives under the Policy Framework. Ms Anissa Wong said that the Administration was keen to roll out the initiatives according to the target timetable and was actively working on various issues, such as site search and mode of delivery of the IWMF. She agreed to provide Members with an update on the progress of major initiatives under the Policy Framework and seek Members' advice on the way forward. EPD

Action

Amendment regulation to Sewage Charge

51. Members noted that the proposed amendment to the Sewage Services (Sewage Charge) Regulation would be discussed by the Legislative Council on 16 May 2007. A Member appealed Members' support for the application of the polluter-pays principle by introducing the ten-year sewage charge increment scheme. Members agreed that implementation of the sewage charge increment scheme would be an important step for realizing the polluter-pays principle in paving the way for other environmental initiatives which were built on the principle. Another Member suggested and Members agreed that the Chairman would send a letter to all the Legislative Council Members on behalf of the Council expressing the Council's support of the Administration's long-term commitment to the Harbour Area Treatment Scheme project and the proposed ten-year sewage charge increment scheme based on polluter-pays principle. Secretariat

(Post-meeting note: The letter was issued to all Legislative Council Members on 15 May 2007.)

Tentative items for discussion at the next meeting

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

Agenda Item 5 : Date of Next Meeting

53. The next meeting was scheduled for 11 June 2007.

ACE Secretariat
May 2007