Confirmed Minutes of the 209th Meeting of the Advisory Council on the Environment (ACE) held on 12 October 2015 at 2:30 pm

Present:

Prof Paul LAM, SBS, JP (Chairman)
Prof CHAU Kwai-cheong, BBS, JP (Deputy Chairman)
Ir Cary CHAN
Prof FUNG Tung
Dr HUNG Wing-tat, MH
Dr Michael LAU
Prof Albert LEE
Ir Prof Irene LO
Ir MA Lee-tak, SBS
Prof John NG
Prof Nora TAM, BBS, JP
Dr Eric TSANG
Dr Carrie WILLIS, SBS, JP
Ir Conrad WONG, BBS, JP
Prof Jonathan WONG, MH, JP
Mr Andrew LAI (Secretary)

Absent with Apologies:

Dr Billy HAU
Mr Anthony LOCK
Miss Yolanda NG, MH
Mr Luther WONG, JP
Mr Stanley WONG, SBS, JP
Ms Pansy YAU

In Attendance:

Ms Anissa WONG, JP	Permanent Secretary for the Environment / Director of Environmental Protection
Mr Simon CHAN	Acting Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Mr Wilson CHAN	Assistant Director of Planning / Technical Services, Planning Department (PlanD)
Ms Esther LI	Principal Information Officer, Environmental Protection Department (EPD)

Miss Evelyn LEUNG	Chief Executive Officer (CBD), EPD
Miss Dora CHU	Executive Officer (CBD), EPD
Ms Daicie TONG	Executive Manager (CBD), EPD

In Attendance for Item 3:

Mr W C MOK	Assistant Director (Air Policy), EPD
Mr Dave HO	Principal Environmental Protection Officer (Air Policy), EPD
Mr Donald NG	Principal Assistant Secretary for the Environment (Electricity Reviews), Environment Bureau (ENB)
Mr Andy HO	Chief Electrical and Mechanical Engineer (Electricity Team) (Acting), ENB

In Attendance for Items 4 and 5:

Mr TANG Kin-fai	Assistant Director (Environmental Assessment), EPD
Mr Louis CHAN	Principal Environmental Protection Officer (Regional Assessment), EPD
Mr Dick CHOI	Senior Marine Conservation Officer (West), AFCD

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Action

The Chairman informed Members that apologies of absence had been received from Dr Billy Hau, Mr Anthony Lock, Miss Yolanda Ng, Mr Luther Wong, Mr Stanley Wong and Ms Pansy Yau.

Item 1 : Confirmation of the draft minutes of the 208th meeting held on 7 September 2015

2. The draft minutes were confirmed subject to the proposed amendments from a Member in paras. 32 and 46(b) of the draft.

Item 2 : Matters arising

3. The Chairman reported that ACE's view on the SkyPier Plan submitted by the Airport Authority Hong Kong (AAHK) was the only matter arising from the discussion at the last meeting. He proposed and Members agreed to discuss the matter at the end of the meeting.

Action

Item 3 : Review of the Fourth Technical Memorandum for Allocation of Emission Allowances for Power Plants
(ACE Paper 13/2015)

4. The Chairman said that the paper sought Members' views on the proposal to further reduce emission allowances for power plants in 2020 by way of issuing a new Technical Memorandum (TM) under the Air Pollution Control Ordinance (APCO) (Cap. 311). The discussion would be divided into the Presentation cum Question-and-Answer Session and the Internal Discussion Session. There was no declaration of interest from Members.

[The presentation team joined the meeting at this juncture.]

Presentation cum Question-and-Answer Session (Open Session)

5. By way of a powerpoint presentation, Mr W C Mok briefed Members on the legal framework and the best practical means (BPM) adopted in the review of the Fourth TM for allocation of emission allowances for power plants, and sought Members' support to the proposal to further tighten the emission allowances for the three specified pollutants, i.e. sulphur dioxide (SO_2), nitrogen oxides (NOx) and respirable suspended particulates (RSP) by way of issuing a new TM (i.e. the Fifth TM) starting from 1 January 2020 under the APCO. He explained that the following factors had been taken into account –

(a) progress of implementing the fuel mix plan for 2020, including the construction of new gas-fired units to replace some of the old power generation units;
(b) practicability of maintaining the current import of 80% nuclear output from the Daya Bay Nuclear Power Station after 2018;
(c) new technology to control NOx emissions from new gas-fired units; and
(d) projected local electricity consumption for 2020.

Emission caps for the two power companies under the Fifth TM

6. A Member asked whether the levels of reduction in the emission caps for power plants were commensurate with the 2020 emission reduction targets set out in the "Clean Air Plan for Hong Kong". He also enquired about the feasibility of setting an emission cap for PM2.5 for power plants. Mr W C Mok explained that when setting the 2020 emission reduction targets jointly with Guangdong in 2012,

EPD had taken into account a package of air improvement measures targeting at various major local emission sources including power plants, motor vehicles and vessels that were considered to be attainable. In the run up to 2020, new opportunities for emission reduction had emerged such as the International Maritime Organization's plan to tighten the sulphur content of the fuel for ocean-going vessels to 0.5% in 2020 subject to a review in 2018, and that the Daya Bay Nuclear Power Plant might maintain the export of 80% of their nuclear output to Hong Kong beyond 2018. These measures, if implemented, could help attain the emission reduction targets for 2020. Regarding the levels of reduction in emission caps for power plants, Mr Dave Ho explained that the emission caps had been tightened progressively since the First TM. As compared with the emission caps for 2010 under the First TM, the proposed Fifth TM would reduce the emission caps for SO_2, NOx and RSP from the power sector aggregately by 50% to 69%. Details of the reduction were –

Percentage of emission reduction as compared with the First TM (for 2010-2014)	
Second TM (2015 - 2016)	34 – 50%
Third TM (2017 - 2018)	6 – 17%
Fourth TM (2019 - 2020)	2 – 11%
Fifth TM (2020 onwards)	16 –17%
Aggregate Emission Reduction	***50 – 69%***

7. As regards the proposal to set an emission cap for PM2.5 for power plants, Mr W C Mok advised that the lack of a reliable measurement method for the concentration of PM2.5 inside wet stacks made it technically impossible to set a PM2.5 emission cap for power plants. Indeed, other environmentally advanced countries such as the United States had not capped the PM2.5 emissions for their power plants due to this technical constraint. Mr Dave Ho supplemented that as the stacks of local power plants equipped with wet scrubbers to control emissions were saturated with water vapour, water droplets in the flue gas could dissolve some of the PM2.5, rendering these particles not collected by the PM2.5 particle-sizing device for the measurement purpose. Moreover, some PM2.5 were in the form of vapour inside the stack and would condense into particulates after emissions from the stack. These were the challenges that the science community had yet to overcome for the measurement of PM2.5 concentration in a power plant stack saturated with water vapour. Mr Mok assured Members that EPD would continue to closely monitor the development of PM2.5 measurement technology. He also assured Members that control measures to reduce PM10 emissions could

also reduce PM2.5 emissions.

8. In response to a Member's concern that power companies might invoke the special event provision under the APCO to absolve their responsibilities of not meeting the emission caps, Mr W C Mok advised that it was a statutory requirement for power companies to meet the emission caps as set out in the APCO. He assured Members that EPD would not lightly adjust the emission caps under the special event mechanism unless the incidents were clearly proven to be beyond the control of power companies and that they had made their best endeavour to avoid such happenings. Mr Mok added that none of the power companies had invoked the special event provision under the previous TMs, and they were obliged to exercise all due diligence to minimize their emissions even after invoking the special event provision.

9. In response to the question from a Member on the performance of low emission coal to reduce power plant emissions by 2020, Mr W C Mok said that low emission coal would generate less SO_2 and NOx as compared with normal coal. However, there were limitations on its use as low emission coal had lower heat content thereby requiring larger amount of coal consumption to produce the same amount of electricity. Moreover, low emission coal would cause slagging problems and would accelerate the wear and tear of coal-fired generation units.

10. The Chairman asked why the BPM was prescribed in emission concentration limits instead of total emissions. Mr W C Mok said that the total emission of a pollutant of a generation unit varied with the generation output while the pollutant concentration would stay at similar levels as long as the emission performance remained the same. It was thus an international practice to use emission concentrations to gauge the performance of generation units. In fact, the total emission of a pollutant could be based on pollutant concentration and the flow rate.

Development of renewable energy and import of nuclear energy

11. A Member asked about the incentives for encouraging power companies to use cleaner fuel such as renewable energy (RE) in view of the substantial capital investment involved as well as the efforts in promoting energy saving. Mr Donald Ng informed that the prevailing regulatory mechanism under the Scheme of Control Agreements (SCAs) had stipulated a higher rate of return for investment in RE facilities, i.e. at 11% on their Average Net Fixed Assets as compared to 9.99%

permitted rate of return to incentivize the two power companies to develop RE. The Government would take into account comments gathered during the public consultation on the long-term development of the electricity market in Hong Kong conducted earlier this year in considering how to encourage power companies to promote RE, in particular in respect of facilitating access to the power grids by distributed RE generators. On this, the Member suggested that the Government could consider taking up the construction of RE facilities in the form of public works projects and charging power companies only on the operation costs of such facilities. Power companies could hence save substantial capital investments on building these infrastructures which in turn would reflect in the electricity tariff.

12. A Member enquired about the arrangement of the extension of the three landfills on the use of landfill gas as an alternative source of energy and how the emission caps in the new TM would contribute to the reduction of carbon intensity/emission by 2020. Mr Dave Ho said that the landfill gas from the South East New Territories Landfill, which had been considered in the Fourth TM, would be used by a local gas company for local use from 2016 instead of generating surplus electricity to the power grid. Details on the use of landfill gas from the remaining two strategic landfills would be provided for Members' reference after the meeting. Mr Donald Ng added that by implementing the recommended fuel mix for 2020, we should be able to achieve the 50-60% carbon intensity reduction target, which was not included in the TM. EPD

[Post-meeting note: Arrangement on the utilisation of landfill gas from the three strategic landfills are as follows –

- *Landfill gas (LFG) has been put into beneficial uses in the three existing strategic landfills for electricity and heat generation, supporting the daily operation of the landfill sites.*
- *To ensure maximum gainful uses of the LFG, off-site LFG utilisation had also been put in place at NENT Landfill since May 2007 to transfer treated LFG from the landfill to HKCG gas production plant in Tai Po as alternate fuel for towngas production; LFG reprocessing facilities will also be commissioned at SENT Landfill in 2016 to allow off-site gainful use of the LFG from the landfill.*
- *Similarly, the contractor of the WENT Landfill is also actively exploring possible arrangement for off-site utilization of LFG generated from the Landfill.*
- *For all the landfill extension projects, the tenderers will be required to submit LFG utilization plans to maximize the gainful uses of the LFG generated from these projects.]*

Action

13. A Member suggested that a cost-benefit analysis be conducted on the development of RE viz the benefits and potential savings on public health care expenses so as to better evaluate the strategy/effectiveness of RE development. He opined that the Government should adopt a broader perspective and draw in support of relevant bureaux/departments in formulating policies for the betterment of the community. The Chairman shared a similar view. Mr Donald Ng advised that there were practical limitations in large-scale development of RE in Hong Kong, e.g. high production costs due to land constraints as well as public acceptance in view of the significant tariff implications. Apart from RE, other fuel sources such as natural gas might help reduce the environmental impact of electricity generation. The fuel mix options included in the earlier public consultation this year and the fuel mix plan formulated with regard to the feedbacks received were drawn up with reference to various considerations, including the local circumstances and physical constraints in developing RE. That said, there was no dispute to the health benefits that might be brought by the more use of RE, and the Government was prepared to promote its adoption subject to the public views on the possible tariff implications.

14. A Member asked about the development of the offshore windfarm in Lamma Island and the one in southeastern waters of Hong Kong, and whether the current import level of nuclear energy from Daya Bay could be further increased. Mr Donald Ng replied that the feasibility study of the windfarm project by the CLP Power Hong Kong Ltd. (CLP) was still underway. While the feasibility study conducted by the Hongkong Electric Company Ltd. (HEC) on their proposed windfarm was more advanced, they had yet to submit a proposal for assessment by the Government. The Government would take into account the feedbacks on RE received during the public consultation on the electricity market development, especially the public's views on whether they were prepared to accept the tariff implications in considering future proposals from power companies in future. As regards the import level of nuclear energy, Mr Ng said that there was limitation to import more nuclear power from the Daya Bay Nuclear Power Plant beyond 80% of its input. It should be noted that the 80% level was just an average figure as Hong Kong was importing more than 90% of Daya Bay's output during the summer peak. Mr W C Mok added that EPD would take into account the latest development of RE facilities in the next TM review.

15. Regarding the Member's follow-up enquiry about the correlation between power plant emissions and impact on public health, Mr W C Mok explained that Hong Kong faced two main air pollution problems, namely roadside air pollution

caused by motor vehicle emissions and the regional smog problem. Both would have impacts on public health. To tackle roadside air pollution, the Government had been implementing a series of measures to reduce motor vehicle emissions. Effort to control emissions from power plants was equally important as their emissions would contribute to the formation of photochemical smog in the Pearl River Delta (PRD) region comprising ozone and fine particulates. He added that the efforts of both Guangdong and Hong Kong Governments in installing flue gas desulphurization and denitrification systems in the PRD region in recent years had borne fruits, with the regional air quality monitoring network recording remarkable reductions in the concentration levels of SO_2 and particulates.

Fuel mix plan for 2020 and forecast on electricity demand

16. In answering the enquiry from a Member on whether the forecast on electricity demand was aligned with the projections mentioned in the consultation paper on the electricity market development, Mr Donald Ng advised that the latest projections in the TM made by power companies aligned with those mentioned in the consultation paper on the electricity market with suitable updates made having regard to the latest developments. They were considered to be reasonable.

17. A Member enquired whether revamping the fuel mix was the crucial factor in reducing the emission caps if electricity demand continued to increase in future. Mr W C Mok said that the TMs would be reviewed at least once every two years. Due regard would be given to the BPM and the change in the fuel mix as the latter would reduce our reliance on coal in power generation. For the current review of the Fourth TM, the Government had assessed the emission allowances on the assumption that both HEC and CLP would have new gas-fired generation units, and that CLP would have the additional 10% nuclear power supply from the Daya Bay Nuclear Power Station after 2018.

18. Replying to a Member's question on the drop in the projected electricity demand for Hong Kong Island, Mr Donald Ng said that the Government had introduced a series of energy efficiency and conservation initiatives, e.g. the Building Energy and Efficiency Ordinance which helped reduce the overall electricity consumption in the territory. As there would not be many major infrastructural projects on Hong Kong Island, HEC's estimated drop of electricity consumption of around 4% in 2020 as compared to the demand projection for 2019 made in the Fourth TM was considered reasonable. For CLP, there would be a moderate 1-2% increase forecasted in their local electricity demand in 2020 as

compared to that of 2019, which was considered acceptable in view of the new infrastructural projects in the pipeline that might be implemented in CLP's service area during the period.

19. The Chairman thanked the representatives of ENB and EPD for their presentation. He concluded that Members were supportive of the proposed Fifth TM and reiterated Members' concern on the importance of improved air quality from the public health perspective as well as the progressive development and wider use of RE in the territory.

[The presentation team left the meeting at this juncture.]

Item 4 : Report on the 130th Environmental Impact Assessment (EIA) Subcommittee (EIASC) meeting
(ACE Paper 14/2015)

20. The Chairperson of EIASC, reported that the ACE paper had summarized the discussion and recommendations of EIASC on the EIA report on "Desalination Plant at Tseung Kwan O" which was discussed at the Subcommittee meeting held on 14 September 2015.

21. A Member proposed to upgrade recommendation (e) of the EIASC's recommendations on the EIA report to an endorsement condition in view of his concern on the construction of a 9-km long trunk feed system and the potential impact on the vegetation and slope works within the Clear Water Bay Country Park. After listening to the supplementary information provided by EPD, the meeting agreed to endorse the EIA report with the conditions and recommendations as set out in para. 10 of the paper, subject to the amendment proposed by the Member.

[Post-meeting note: According to the EIA report, the trunk feed system would be mainly underneath the "existing carriageway" running from the new desalination plant to Tseung Kwan O Fresh Water Primary Service Reservoir along the existing Wan Po Road, Po Hong Road and Tsui Lam Road. The system would not run into the Clear Water Bay Country Park and the shortest buffer distance of the fresh watermain to the country park would be about 150 m. After consulting EPD and AFCD, Members agreed that the exact wording of the original recommendation (e) should be adopted as the new condition (c) and the original recommendation (e) be deleted accordingly. The final list of conditions of endorsement and

*recommendations which had been issued to EPD was at **Annex**.]*

Item 5 : Any other business

EIA report not selected by EIASC for submission to ACE

22. The Chairperson of EIASC, reported that since the last Council meeting, EIASC received the Executive Summary of the EIA report on "Operation of the Existing Tai Lam Explosives Magazine at Tai Shu Ha, Yuen Long for Liantang / Heung Yuen Wai Boundary Control Point Project" which the Subcommittee had not selected for discussion. The Executive Summary had been circulated to Subcommittee Members, and the relevant hyperlinks copied to non-EIASC Members for information. The EIA report was exhibited for public comments from 24 September to 23 October 2015. Members had been reminded to send their comments on the EIA report, if any, to EPD direct within the public inspection period. Given that the EIA report had not been selected by EIASC for presentation and discussion, EPD would take it that ACE had no comments on the EIA report upon close of the public inspection period.

Item 5 : Any other business

ACE's view on the SkyPier Plan submitted by the Airport Authority Hong Kong (AAHK)

23. The Chairman recapped the discussion of ACE on the EIA report on "Expansion of Hong Kong International Airport into a Three-Runway System" in September 2014, and the subsequent discussions on the "Marine Travel Routes and Management Plan for High Speed Ferries from SkyPier" (the SkyPier Plan) at the Council meeting on 13 July 2015 as well as the visit to the SkyPier on 23 July 2015. While AAHK had provided supplementary information to ACE in response to the various comments from Members, he asked if Members had further comments before the Council gave its collective views on the SkyPier Plan to EPD in accordance with the condition stated in the project Environmental Permit (EP).

24. A Member opined that Clause 2.10 of the EP had not expressly specified a single route and alignment for the SkyPier high speed ferries (HSFs) operating to/from Macau and Zhuhai. Hence it was logical that more than one route should have been proposed in the SkyPier Plan for assessment and selection. He considered the proposed alternative route to the north of Sha Chau and Lung Kwu

Chau Marine Park (SCLKCMP) unjustifiable as it passed through the hotspots of Chinese White Dolphins (CWDs) according to the updated CWD abundance data. Another Member followed that the proposed alternative route would significantly impact on CWDs, and AAHK had failed to give an adequate assessment on such impact in the SkyPier Plan. He opined that the original route to the north of the airport island would impact less on CWDs especially as the routing would be within the marine park to be designated and all vessels be subject to the 10-knot speed restriction.

25. A Member pointed out that CWD abundance data had indeed been included and assessed in the EIA report. She recalled that AAHK had explained their rationale for proposing the alternative route which unavoidably had to pass through the CWD hotspots when EIASC and ACE deliberated the matter in 2014. Subsequent discussions had been focused mainly on optimizing the mitigation measures of the alternative route, such as imposing speed restriction and a daily cap on the SkyPier HSF movements which AAHK had control. In view that there was no substantial change in the CWD abundance data presented in the SkyPier Plan, the assessment and conclusion in the EIA report in respect of the route diversion proposal should remain valid. Mr Dick Choi confirmed that CWD data presented in the SkyPier Plan had incorporated the latest monitoring data of AFCD and the updated distribution pattern was similar to that in the EIA report.

26. Mr K F Tang recapped that the EIA report stated that the waterway to the north of the extended Hong Kong International Airport Approach Area (HKIAAA) served as an important travelling corridor for CWDs, and a new marine park would be designated in the area to link up SCLKCMP in the north, the two planned marine parks at the Brothers in the east and Fan Lau in southwest of Lantau, as well as the Pearl River Estuary CWD National Nature Reserve to the west. It was not practicable for the SkyPier HSFs to use the original marine route during the operation phase as it would cut straight into the marine park to be designated. The EIA report had also stated that the operation of HSFs along the constrained stretch of waters between the extended HKIAAA and SCLKCMP would impose a moderate to high impact on CWDs during the construction phase. Having regard to the fact that the designated marine park could only be set up upon completion of the third runway construction, it was pertinent to divert the SkyPier HSFs away from the north of the HKIAAA at the start of the construction phase so as to minimize the impact on CWDs. The EIA report also stated that from the marine traffic safety angle, the SkyPier HSFs had to avoid the Urmston Road Anchorage Area and the shallow waters to the west and northwest of the area. It was also not

practicable for these HSFs to travel via the south of Lantau due to the much longer routing as explained in the EIA report. The proposed diverted route thus remained the only alternative for the SkyPier HSFs operating to/from Macau and Zhuhai that had the least impact on CWDs. The previous EIASC and ACE meetings had discussed the proposed alternative route, speed restriction and the feasibility of imposing a daily cap. At that time, Members were more concerned about what and where the speed restriction should be imposed and the number of HSFs to be involved. The relevant EP condition thus required the SkyPier Plan submission to confirm the location of the speed restriction and the daily cap. The Chairman recalled, with concurrence of three Members, that Members at the previous EIASC and ACE discussions focused on the mitigation measures to be imposed at CWD hotspots on the proposed alternative route after hearing the explanation/assessment provided by AAHK.

27. A Member opined that a scientific approach should be adopted in determining the speed limit, speed control zone and daily cap on the SkyPier HSF movements so as to bring about the optimal mitigation measures with the least impact on CWDs. Another Member echoed that scientific evidence should be provided to support the setting of the speed limit at 15 knots but not at 10 knots as adopted in marine parks. A Member clarified that AAHK had committed a daily cap at 99 for the SkyPier HSFs which was reflecting their current level of operation, rather than just an arbitrary figure proposed for endorsement by ACE. She also recapped that the EIA report had provided detailed explanation that HSFs should not operate at a speed below 15 knots in consideration of safe manoeuvring of the ferries as well as passengers' comfort. The Chairman remarked that it would only be reasonable for the EP conditions to supplement but not contradict with the conclusions made in the EIA report, otherwise the report should not have been endorsed by ACE.

28. A Member said that it was the high speed of HSFs that posed a great threat to CWDs in terms of acoustic disturbance and collision risks. He opined that Clause 2.10 of the project EP, which mentioned the imposition of a speed limit in the hotspots of the CWD in Hong Kong waters and exploring the imposition of further speed restrictions at different spots, required AAHK to impose the speed limit not only on the SkyPier HSFs operating to/from Macau and Zhuhai, but also on their other ferries heading north to the Pearl River Delta (PRD). He considered that AAHK should have conducted assessments to compare the impacts on CWDs caused by marine vessels travelling at 10 knots and at 15 knots. He opined that it should be safe for HSFs to operate at 10 knots as they would have to accelerate

gradually after setting off. As the stretch of waters to the north of the SkyPier would form part of the marine park to be designated, HSFs should be restricted to a speed of 10 knots for operation at the SkyPier.

29. The Chairman said that AAHK had initiated to implement the SkyPier Plan by the end of 2015 before commencement of the construction works. That would help bring benefits to CWDs at an earlier stage. They had also committed to negotiate with ferry operators on the imposition of a speed limit of 15 knots on SkyPier HSFs heading north to the PRD when tendering for the next phase of contract in 2019. He suggested that ACE could express a strong wish to EPD that AAHK should be required to incorporate the 15-knot speed requirement in the new contract terms upon contract renewal. A Member and other Members supported this approach.

30. A Member expressed reservations and enquired on the proper response to make in justifying ACE's endorsement of the route diversion plan that passed through the CWD hotspots near the Sha Chau and Lung Kwu Chau waters. Another Member suggested that AAHK could be further invited to give a more detailed account of their rationale for the alignment of the alternative route. A Member pointed out that AAHK had already made a detailed explanation during Members' site visit to the SkyPier in July 2015 as well as in the supplementary information provided in August and September 2015. The Chairman said that while it might not be practicable for Members to reach a full consensus on the route diversion plan, ACE should present the collective views of Members as well as other comments made by individual Members to EPD. Two Members maintained that AAHK had failed to provide sufficient scientific data to justify the proposed alternative route to the north of SCLKCMP.

31. Mr K F Tang pointed out that AAHK first submitted the SkyPier Plan to ACE in June 2015. Considering that AAHK could not commence any construction works until the plan was approved, he suggested that the Council should forward its collective views to EPD as early as possible. Mr Dick Choi supplemented that it would be desirable to have the route diversion plan implemented before commencement of the construction works. CWD abundance data obtained under the Environmental Monitoring and Audit (EM&A) programme would reflect the effectiveness of the mitigation measures without interference of the construction activities and allow the authority to follow up on any adjustments as required. Mr Tang said that the EM&A programme had a built-in review mechanism, in which EPD and AFCD would take necessary actions when event

and/or action limits were triggered. While AAHK would be required to submit regular EM&A reports to EPD, ACE could request AAHK to report to the Council as and when considered warranted. On this, a Member opined that AAHK should report the progress to ACE six months after the implementation of the SkyPier Plan.

32. Responding to the enquiry from a Member on whether data could be collected on the behavioural changes of CWDs caused by HSFs passing through their habitats, Mr Dick Choi said that the EM&A would include the collection of such data. However, previous experience indicated that creditable analysis could be challenging given the difficulty in capturing the locations of HSFs and any behavioural changes of CWDs at the same time during the brief passage of the ferries through their habitats.

33. The Chairman summarized the collective views of Members which would be forwarded to EPD for consideration –

(i) The SkyPier HSFs operating to/from Macau and Zhuhai would take the alternative route via north of SCLKCMP by end 2015, and be subject to the speed restriction of 15 knots within the speed control zone to be drawn up by AAHK with reference to the CWD abundance data;

(ii) The average daily cap of 99 SkyPier HSF movements before designation of the marine park should be observed;

(iii) For the SkyPier HSFs heading north to PRD, AAHK should include the 15-knot speed requirement as one of the contract terms when tendering for the next phase of the SkyPier contract; and

(iv) AAHK should report to ACE on the effectiveness of the mitigation measures on CWDs six months after the implementation of the SkyPier Plan. AAHK

Environmental Permit of the Hong Kong-Zhuhai-Macao Bridge (HZMB) project

34. The Chairman said the recently there were media reports alleging that the Highways Department (HyD) had breached the conditions set out in the EP for the HZMB project. He invited EPD to give an account of the incident.

35. Mr K F Tang informed that EPD had made a response to press enquiries earlier regarding the concerned allegations. The information had also been issued

for Members' reference before the meeting. He explained that under the Environmental Impact Assessment Ordinance (EIAO), there were provisions for application for variations of an EP. If there were changes that were different from the recommendations or key assumptions made in the EIA report, the project proponent could apply for changes in EP conditions and EPD might amend the EP without calling for an EIA on condition that (i) there were no material changes to the environmental impact of the project with the mitigation measures in place; and (ii) the project still complied with the requirements described in the Technical Memorandum on EIA Process. An EIA would be required if the environmental impact was considered to be materially changed to the extent that the environmental performance requirements set out in the EIA report might be exceeded or violated even with the mitigation measures in place.

36. With reference to the approved EIA report of the HZMB project, Mr K F Tang said that the dredge seawall construction method was originally proposed for reclaiming the artificial island for the Hong Kong Border Crossing Facilities (HKBCF). Seawalls would be constructed on firm foundations by replacing the soft marine mud of the seabed with sand fill. This would involve dredging and dumping of an estimated volume of 20 million m^3 of marine deposits, as well as installation of temporary steel sheet pile walls near the northern edge of the HKBCF site to protect silt curtains against strong current flows. With a view to minimizing the water quality impact caused by dredging and dumping, HyD had developed a non-dredge seawall construction method which involved installation of steel cellular column and stone columns and construction of rock filled seawall. This non-dredge reclamation method could attain the following benefits as compared with the conventional dredging method –

(a) reduction in dredging and disposal of marine mud by 20 million m^3;
(b) reduction in release of suspended particles by 70%;
(c) reduction in backfilling materials by 50%; and
(d) reduction in construction marine traffic, disturbance to marine habitats and impact to water quality.

37. Mr K F Tang said that a total of nine variations were approved for the EP conditions of this project. While the first two concerned the adoption of the non-dredge seawall construction method for replacing the conventional dredging method, the other variation examples included the requirement on disposal of contaminated marine deposit at designated mud pits, re-use of effluent in-situ and use of on-site concrete batching plant instead of an off-site one. Considering that

these changes to the proposed construction method were either neutral or beneficial to the environment performance of the project, EPD varied the EP to reflect the changes.

38. In response to a Member's question concerning the report that the artificial island had drifted by 7 m, Mr K F Tang explained that the drifting was caused by the tilting of two steel cellular columns, which resulted in immaterial change to the size of the area to be reclaimed. It would be a common engineering practice for the project proponent, and in this case HyD, to prepare record drawings to record the actual reclamation area. Mr Tang also confirmed that EPD would upload all varied EPs on its webpage for public information.

Slurry leakage incident at the Express Rail Link (XRL) works site at Mai Po in August 2015

39. Replying to the question from a Member on the cause of the slurry leakage incident at Mai Po and whether any EP conditions had been violated, Mr K F Tang explained that the cross-boundary tunnels cut through a number of fishponds which could cause unanticipated groundwater drawdown during the tunnelling works. MTR Corporation Limited (MTRC) was required to monitor the groundwater levels by filling up cavities by cement-based grout when conducting the boring works. While the leakage in question was caused by excessive grouting in a borehole that was not properly plugged, works of the tunnelling boring machine was stopped immediately on report of the incident and remedial actions were promptly taken.

40. A Member said that EPD had made a detailed reply to the Legislative Council Panel on Environmental Affairs concerning the incident, and a copy had been issued to Members for reference on 7 October 2015. She opined that the visit to the works site scheduled on 19 October 2015 was not necessary as the irregularities had been rectified. The Chairman sought Members' agreement to cancel the visit to Mai Po. The Secretariat would inform MTRC accordingly. Members could approach the Secretariat should further information on the incident be required. Secretariat

41. A Member informed that unusual "bubbles" had been observed in the fishponds since last year, which was said to have been caused by the dredging works exerting pressure on the soil layer. In view that "bubbles" were still observed after completion of the dredging works, the Member suggested and other MTRC

Action

Members agreed that MTRC should be informed on the situation for appropriate follow up.

[Post-meeting note: MTRC's response was issued to Members for information on 29 October and 4 November 2015.]

42. There was no other business for discussion at the meeting.

Item 6: Date of next meeting

43. The next ACE meeting was scheduled on 9 November 2015 (Monday). Members would be advised on the agenda in due course.

ACE Secretariat
October 2015

Annex

Environmental Impact Assessment Report on
"Desalination Plant at Tseung Kwan O"

The Advisory Council on the Environment (ACE) agreed at the meeting held on 12 October 2015 that the Environmental Impact Assessment Report on "Desalination Plant at Tseung Kwan O" could be endorsed with the following revised conditions and recommendations –

Conditions of endorsement

(a) The Project Proponent should conduct an updated fisheries survey as early as possible and in any case, not later than 12 months before commencement of the construction of submarine works so as to verify if there is any fish spawning and nursery ground in the vicinity of the planned location and alignment of the seawater intake and submarine outfall for fine-tuning the detailed design of these facilities as necessary. Details of the baseline fisheries survey should be drawn up in consultation with the Agriculture, Fisheries and Conservation Department (AFCD) for submission to the Director of Environmental Protection (DEP) for approval before commencement of the survey.

(b) The Project Proponent should include in the Environmental Monitoring & Audit (EM&A) programme of the post-construction regular monitoring on fisheries in the vicinity of seawater intake and submarine outfall areas so as to ensure no significant impacts on fisheries resources. The EM&A programme should also include post-construction regular monitoring on corals identified in the vicinity of the submarine outfall area to ensure that the health status of the corals was kept in good condition. Details of the fisheries and coral monitoring programmes should be submitted to DEP for approval prior to commencement of operation of the desalination plant.

(c) The Project Proponent should carry out all slope mitigation works on the natural slopes within the Clear Water Bay Country Park in the northeast boundary of the desalination plant with reference to the guidelines and standards adopted by the Civil Engineering and Development Department, and prior written consent of AFCD should be sought for any proposed slope works inside the country park.

Recommendations

(d) The Project Proponent should conduct further run(s) of the effluent dispersion model to ensure that the coral groups near the submarine outfall will not be adversely affected under the most critical conditions including tidal water current or seasonal water current which will bring effluent or reverse osmosis (RO) concentrate towards the corals as well as typhoons which will blow the RO concentrate towards the corals. The Project Proponent should report the model run results to the EIA Subcommittee of ACE.

(e) The Project Proponent should explore the use of landfill gas as an alternative source of power supply for the operation of the desalination plant and its ancillary facilities.

(f) The Project Proponent should minimize the generation of marine dredged materials and rock fills from the project, and these materials should be re-used in-situ as far as practicable.

(g) The Project Proponent should consider further mitigation measures to keep impacts on marine ecology and marine life to a minimum, including the use of double silt curtain, further minimization of both the daily volume of marine sediments to be dredged and the dredging rate.

ACE Secretariat
October 2015