

**Confirmed Minutes of the 128<sup>th</sup> Meeting of  
the Environmental Impact Assessment Subcommittee  
held on 18 August 2014 at 2:00 pm**

**Present:**

Dr Dorothy CHAN, BBS (Chairperson)  
Dr HUNG Wing-tat, MH (Deputy Chairman)  
Dr Gary ADES  
Prof CHAU Kwai-cheong, BBS, JP  
Prof FUNG Tung  
Prof John NG  
Miss Yolanda NG, MH  
Prof Nora TAM, BBS, JP  
Dr Eric TSANG  
Prof Ray YEP  
Dr Eric YIP  
Miss Evelyn LEUNG (Secretary)

**Absent with Apologies:**

Dr Billy HAU  
Prof LI Xiang-dong  
Mr Luther WONG

**In Attendance:**

Non-EIASC Members

Prof Paul LAM, SBS, JP  
Mr Anthony LOCK  
Ms Pansy YAU  
Prof Ignatius YU

Government Officials

Mr Andrew LAI	Deputy Director of Environmental Protection (3), Environmental Protection Department (EPD)
Mr K F TANG	Assistant Director (Environmental Assessment), EPD
Mr Joseph SHAM	Assistant Director (Country and Marine Parks), Agriculture, Fisheries and Conservation Department (AFCD)
Mr Louis CHAN	Principal Environmental Protection Officer (Regional Assessment), EPD
Mr Lawrence NGO	Senior Environmental Protection Officer (Regional Assessment)1, EPD
Mr Cary HO	Senior Nature Conservation Officer (South), AFCD
Mr Dick CHOI	Senior Marine Conservation Officer (West), AFCD

Mr Alan CHAN  
Ms Valerie HO  
Ms Joanne CHIN

Senior Marine Parks Officer, AFCD  
Senior Fisheries Management Officer, AFCD  
Executive Officer (CBD), EPD

Project Proponent Team

Mr John CHAI

Executive Director, Projects, Airport Authority Hong Kong (AAHK)

Mr Kevin POOLE

Deputy Director, Projects, AAHK

Mr Peter LEE

General Manager, Environment, Projects, AAHK

Mr Eden NGAN

Senior Manager, Environment, Projects, AAHK

Mr Martin PUTNAM

Senior Manager, Environment, Projects, AAHK

Ms Julia YAN

General Manager, Strategic Planning and Development, AAHK

Mr James TSUI

General Manager, Corporate Communications, AAHK

Ms Gigi CHONG

Manager, Project Liaison, Projects, AAHK

Dr Anne KERR

Director, Mott MacDonald Hong Kong Ltd. (Mott MacDonald)

Mr Eric CHING

Divisional Director, Mott MacDonald

Ms Julia CHAN

Principal Environmental Consultant, Mott MacDonald

Ms Dulcie CHAN

Senior Environmental Consultant, Mott MacDonald

Dr Jasmine NG

Principal Consultant, ERM Hong Kong Ltd.

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Action

**Item 1 : EIA Report on “Expansion of Hong Kong International Airport into a Three-Runway System”**  
**(ACE-EIA Paper 3/2014)**

**Internal Discussion Session**

The Chairperson informed Members that at today’s meeting, the Airport Authority Hong Kong (AAHK) would be invited to give an overview of the “Three Runway System” (3RS) project and the methodology adopted in the EIA study, as well as to provide further information in relation to the conservation of Chinese White Dolphins (CWDs) and marine ecology as requested by Members at previous meetings.

2. The Chairperson asked if Members had any interest to declare which had not be made at previous meetings. A Member declared that Dr Wai Tak-cheong, one of his staff of the Stay Clean Laboratory of which he was the Director, was engaged to audit the field work of the 3RS project by ERM Hong Kong Ltd. which was the review consultant to review Mott MacDonald’s work. He declared that he had no involvement in the work. The meeting agreed that the Member could stay and continue participating in the discussion.

*[The project proponent team joined the meeting at this juncture.]*

**Presentation Session (Open Session)**

3. Mr K F Tang informed Members that the overall need of the 3RS project had been established before AAHK proceeded with the EIA process and reiterated in the 2013 Policy Address. He advised that ACE/EIASC should study the environmental acceptability of the 3RS EIA report in the context of the EIA Ordinance as well as the requirements of the Technical Memorandum on EIA Process (EIA-TM) and the Study Brief related to the project.

4. Mr Kevin Poole made a presentation in response to Members' comments and request for supplementary information at the meetings of 11 and 13 August 2014, with focus on conservation of CWD and marine ecology and details on the enhancement initiatives. Ms Julia Yan followed with a presentation on an overview on the need of the project.

**Question-and-Answer Session (Open Session)**

***Overview of the 3RS project***

5. In view that the aircraft mix would have impact on the levels of air and noise emission, a Member requested AAHK to provide data on the mix of the aircrafts and the historical trend of the aircraft phasing out programme for local and major airlines operating in Hong Kong to support the assumptions made in the EIA report. Further, he considered it not adequate to base the projections of the air quality model on a set of questionnaire, and requested for statistics on historical trend for assessing the reliability of the model. Mr Peter Lee replied that the International Air Transport Association (IATA) had conducted a comprehensive survey on the airlines operating in Hong Kong to understand their development plan including their fleet phasing-out programme. Survey results suggested that the average operational lifespan of aircrafts of local airlines was 20-25 years which was in line with the global trend. All aircrafts manufactured after 2006 were of Chapter 4 standard, which in effect would mean that the Chapter 3 aircrafts would be largely phased out after 2031.

6. A Member referred to a submission that the higher entry point of Hong Kong relative to Macau when entering the Mainland airspace was a major contributing factor to the congestion at the Hong Kong International Airport (HKIA). He asked if the "air wall" could be removed or lowered. Ms Julia Yan clarified that the "air wall" was a misconception which actually was an airspace boundary arrangement between different air traffic control zones. It was a common and international practice where the different jurisdictions of air traffic control running the airspace zones would hand over and receive aircrafts through different entry points at different altitudes with safe separation between aircrafts. Similar arrangements were imposed on international airports including the HKIA with busy air traffic with adjacent air traffic control zone. The entry point at a specific altitude was not a constraint on the air traffic. Mr Peter Lee supplemented that the bottleneck of air traffic at the HKIA was at the two runways where their capacity was constrained by the spacing between aircrafts, i.e. standards on the spacing

between aircrafts for safe landing and take-off set by the International Civil Aviation Organization (ICAO). The Civil Aviation Department (CAD) as the regulatory authority in Hong Kong had lowered the entry point from 15 700 feet to 12 800 feet in 2005 for the non-peak hours at night. Additional transfer points had also been established as part of the optimization plan of the management of airspace in the Great Pearl River Delta (GPRD) region covering the three airports in the Mainland, HKIA and the Macau International Airport.

7. A Member asked about the design capacity of the existing Two Runways System (2RS) of 86 air traffic movements (ATM) per hour and how the lowering of the altitude of the entry point would affect the number of flights handled per hour under the 2RS. Mr Peter Lee explained that the bottleneck was at the current two runways which limited the number of aircrafts that could be handled. He reiterated that the capacity of runways was constrained by the spacing between aircrafts which ICAO had set clear standards. Ms Julia Yan advised that the civil aviation authorities in the Mainland, Hong Kong and Macau were working on the agreement to optimize the use of airspace of the GPRD. As far as Hong Kong was concerned, the plan for HKIA to expand into the 3RS, and the ATM capacity per hour increased from the current 68 under the 2RS to 102 under the 3RS had been presented by CAD to other civil aviation authorities involved. She said that the 1992 Airport Master Plan was done before HKIA was in place, with the assessment that the capacity of the 2RS might range from 52 to 86 ATM per hour. However, consideration of the relevant factors including the local hilly terrain indicated that the maximum 86 ATM per hour was not achievable. CAD had re-visited the issue in 1994, with indication that the maximum ATM per hour achievable was only 63 ATM per hour for the 2RS. In 2008, AAHK, in conjunction with CAD, commissioned the National Air Traffic Service to undertake an airspace and runway capacity study which concluded that the maximum ATM per hour should be 68 with advancement in aircraft and air traffic control technology and system.

8. On the information of the new 5 000 ATM per day targeted in the GPRD region in 2020, a Member requested AAHK to seek information from CAD on the proportion that Hong Kong could share out of these 5 000 ATM, and the proportion of these ATM which would be landings and taking-off in Hong Kong and those just passing by our airspace.

*(Post-meeting notes: On the request of AAHK, CAD has provided the relevant information on 12 September 2014.)*

9. In reply to a Member's questions relating to the use of airspace of the GPRD and the tripartite agreement on the five airports, Ms Julia Yan said that some 23% of the air traffic from HKIA would use the airspace of the GPRD, including any aircraft flying through the airspace irrespective of whether or not making a destination in the Mainland. The tripartite agreement would also take into account of the future development of the GPRD airports.

10. A Member referred to the claim that the airport capacity had been under-utilized in terms of the capacity of the aircraft. He enquired about the

possibility of imposing discriminatory charging on small aircraft so as to encourage airlines to use larger aircraft with a view to maximizing the HKIA's overall carrying capacity. Ms Julia Yan said that AAHK had to adhere to the international guidelines governed by ICAO in setting standard charges on parking and landing for all airlines operating at HKIA. A Member informed Members that small aircrafts in fact could help fully utilize the time gaps in between the usage by large aircrafts and result in the more efficient operation at HKIA.

***Elaborations on supplementary information relating to conservation of CWDs***

11. In response to A Member's enquiry concerning work suspension in case of exceedance above the action and limit levels, Mr Eric Ching said that an event and action plan would be triggered to investigate whether the exceedance was related to the project or other reasons before deciding whether to suspend the construction works. As for CWDs, the action and limit levels would be drawn up based on the latest information obtained including information from a six-month pre-construction CWD survey. They would consider adopting the Unusual Mortality Event instead of a method relying on counting of the number of sightings over time to determine the action and limit levels. This approach had been used extensively in USA and was well substantiated in literature reviews. The proposed action and limit levels would be submitted as part of the Environmental Monitoring and Audit (EM&A) programme to AFCD for approval before commencement of the project.

12. A Member enquired about the impact assessment on CWDs by re-routing the high speed ferries (HSFs) operating at the SkyPier to the north of Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP). She also enquired about the control measures on the non-SkyPier vessels which constituted 40% of the marine traffic between the airport island and Sha Chau and another 50% using the Urmston Road channel. Mr Eric Ching said that they had assessed the potential impact of the re-routing and concluded that by re-routing the SkyPier HSFs to further north away from the airport island, marine traffic inside the reclamation works area and in adjacent waters would be reduced, hence reducing the chances of collision and disturbance to CWDs. Mr Peter Lee supplemented that AAHK had no control over the operation of non-SkyPier vessels. The proposal to designate a marine park in the area with a speed limit at 10 knots for all marine vessels within the proposed marine park would benefit the long-term conservation of dolphins.

13. A Member asked for concrete evidence on the impact assessment of the re-routing proposal. She was also concerned about possible increase in marine traffic congestion arising from the reduction of speed limit which might even bring adverse impact to CWDs. She requested AAHK to assess the relationship between reduction in vessel speeds, lengthening of journey time, increase in volume of vessels navigating in the area, and the resulting impacts on CWDs. The information apparently had not been provided in the EIA report. Another Member remarked that the substantial volume of HSF activities in the north Lantau waters had caused behavioural changes in dolphins. There was also the issue of fragmentation of CWD habitats in that part of the waters. Dolphins still faced the risk of collision

with vessels even with speed restrictions. A Member asked if AAHK had considered measures to move CWD away from north of SCLKCMP which was a hotspot for dolphins.

14. Mr Eric Ching said that according to the assessment of their dolphin experts, dolphins would naturally avoid disturbances from temporary construction works. Also, it would not be necessary nor practicable to move CWDs away from the construction areas. On marine traffic at HKIA, Mr Ching said that the SkyPier HSFs accounted for 60% of the daily HSFs navigating the waters between HKIA and Sha Chau while the preferred route for other HSFs travelling between Hong Kong (Sheung Wan and Tsim Sha Tsui piers) and Macau/Zhuhai was via south of Lantau. They had proposed to re-route the SkyPier HSFs to the north of SCLKCMP during the construction phase and to reduce the speed of the re-routed SkyPier HSFs when they travel close to CWD hot spots to minimize chances of collision and disturbance to CWD. The impact and effectiveness of the HSF re-routing and associated speed control had been fully assessed in the EIA report. Further, they had proposed an additional initiative to cap the number of the SkyPier HSF at the current level of operation at an annual daily average of 99 prior to the designation of the proposed marine park. Mr Ching recapped the literature review which supported that high speed of HSF was the key threat to CWDs. The proposed 15-knot speed limit against the normal 30-40 knots was considered a reasonable balance for protection of CWDs and passenger comfort on board. Mr Martin Putnam supplemented that reducing the speed to 15 knots would result in a significant lowering of the underwater noise frequency level.

15. In response to a Member's enquiry about the speed restrictions on HSFs in the Pearl River Estuary (PRE) waters, Mr Peter Lee said that it was outside AAHK's jurisdiction, including those HSFs operating at the SkyPier. Further, there was very little information on the hotspots of CWD in the PRE to propose speed limit at specific sections of the marine routes. The Member considered it worth pursuing the speed limit in the contracts with the SkyPier HSFs within and outside the Hong Kong waters so as to minimize the impact to dolphins.

16. A Member suggested AAHK to explore the feasibility of relocating the SkyPier from the east end to the west end of the airport island so as to shorten the voyage distance and avoid routing through CWD frequented areas within and outside the Hong Kong waters. Another Member enquired about the chance of suspending the SkyPier HSF service during the construction phase if the usage was not high. Mr Kevin Poole said that the SkyPier was located in its current location within the Restricted Area of HKIA to readily connect the passengers between the aircraft terminal with the Mainland ports via the Automated People Mover (APM) system. It was technically and operationally impracticable to relocate the pier to the west end of the airport island. At present, there was around 2.7 million transit passenger throughput per year. Temporary suspension of the HSF service at the pier during the construction phase was not practical. Mr Poole assured Members that the SkyPier traffic would be capped at the current operational level before designation of the proposed marine park.

17. A Member enquired about the rationale behind adopting the current design of the concourse over other options, two of which suggested locating the concourse at the west end of the airport island. Mr Kevin Poole clarified that while the different design options involved different locations of the concourse and processing terminals, the SkyPier itself stayed in its original location in all options. The option currently selected had the least reclamation footprint which correspondingly would cause the least impact on CWDs.

18. A Member enquired about the definition of “practicable minimum” of construction vessels as made in the EIA report, which was an important value for triggering the action and limit levels relating to CWDs. Mr Eric Ching said that as part of the marine traffic impact assessment in the EIA study, there was a projection on the range of number of construction vessels in the works areas. They had the peak number of construction vessels as the worst case scenario and an average number for reference purpose. The purpose was to keep all marine traffic due to the construction works to a practicable minimum by restricting entry points in the works areas, designating the marine routes and implementing systems to monitor all construction vessels. Mr Peter Lee supplemented that the actual number would depend on the construction activities at the works sites. Construction vessels would stay in the areas only when operationally necessary. Procedures and technical guidelines would be drawn up for controlling marine traffic within the area.

19. A Member considered that the proposed mitigation measures concerning CWDs were mainly for addressing disturbance to dolphins but not for their habitat loss. He requested measures to alleviate the construction impacts on CWDs such as establishing a safe refuge for dolphins displaced by the project. Another Member echoed that AAHK should provide measures for habitat loss, such as through enhancing the carrying capacity of nearby waters, instead of focusing on the proposed marine park. Mr Peter Lee replied that prior to the designation of marine park, the Marine Ecology Enhancement Fund (MEEF) would be used to support initiatives for territory-wide studies and conservation strategy of dolphins, including studies in the PRE region.

20. A Member remarked that the EIA-TM specified that effective mitigation measures should be identified in the EIA report for implementation before/during the construction stage. AAHK should create or enhance the habitats for CWDs which was the prime concern of the ecological impacts of the project. Another Member considered that relevant studies/researches to be funded under the proposed MEEF could start the soonest possible. Mr Peter Lee replied that AAHK had their on-going Environmental Fund which supported research studies on ecological conservation. The proposed MEEF was with a larger fund size and more focused on the 3RS project particularly in respect of CWD conservation.

21. A Member reiterated his request for AAHK to provide a complete set of quantitative assessment on the environmental benefits and dis-benefits of various scenarios with or without the project, i.e. the Two-Runway System vs. Three-Runway System in table format as well as the worst scenario for the noise impact assessment for the 1% scenario when the South runway was used at night

time. Another Member also asked about the platform for discussion of the strategy of putting the South runway into a standby mode. Mr Peter Lee said that the 1% scenario had been taken into account in the Noise Exposure Forecast (NEF) modelling undertaken for the EIA study which was a weighted annual daily average noise matrix. CAD had committed to this strategy and would not require negotiation/consultation with other authorities. He also advised that while the quantitative assessments with and without the 3RS project had been made in the respective sections of the EIA report, he would provide the information presented in the EIA report in table format as requested for Members' easy reference.

22. A Member requested further information about the noise impact of the 3RS including the noise impact assessment in Ma Wan and the associated mitigation measures for the affected residents. He also expressed similar concerns for the sensitive locations of Tsuen Wan, Siu Lam, Ting Kau and Tuen Mun. Another Member shared the view and enquired about the possibility of using decibel (dB(A)) in lieu of NEF in the EM&A programme for the better monitoring of health risks. Mr Peter Lee explained that NEF was the noise matrix specified in the EIA-TM for assessing aircraft noise impact at sensitive locations under the flight path. CAD also separately carried out monitoring of aircraft noise events which were recorded in dB(A) and had been showing an improving trend over the years.

23. The Chairperson informed AAHK that a list of supplementary information requested by Members would be provided for their response after the meeting.

*[The project proponent team left the meeting at this juncture.]*

### **Internal Discussion Session (Closed Session)**

24. The Chairperson suggested Members to draw up a list of recommendations on the EIA report which had been discussed at the past meetings. On CWDs, she concluded Members' views that –

- (i) Designation of the proposed marine park in 2023 was taken too late for the protection of CWDs during the construction phase;
- (ii) More information was required in respect of the impact of HSFs operating at the SkyPier on CWDs;
- (iii) More information was required on the details and effectiveness of the MEEF; and
- (iv) A more practical and effective plan on the designation of the proposed marine park was required.

25. A Member enquired if the lack of immediate mitigation for the permanent loss of habitats for CWDs could constitute sufficient ground for rejecting the EIA report on the basis that it failed to meet the EIA-TM requirement. Mr Dick Choi said that the designation of a marine park as compensation for habitat loss had been prescribed in a number of approved EIA reports including the Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HZMB HKBCF) project and the Integrated Management Facilities (IWMF) project at Shek



Kwu Chau. As for the 3RS project, it was not feasible to advance the designation of the proposed marine park as much of the area would be situated right in the area where the construction works would take place. The HZMB HKBCF and IWMP projects had a similar situation, and the respective marine parks could only be designated after completion of the construction works. Annex 16 of the EIA-TM had set out that it was desirable, but not mandatory, to have mitigation measures carried out in advance of the project. Similar to other previously approved EIA reports, designation of the proposed marine park after completion of the 3RS construction works was considered as acceptable and meeting the EIA-TM requirements.

26. A Member remarked that the 3RS project was different in that there were cumulative environmental impacts from the other large-scale projects in the neighbouring areas. There were lots of activities in the PRE and it was uncertain if it was a suitable habitat for dolphins displaced by the 3RS project. There were also doubts on the effectiveness of the proposed marine park to be designated only in 2023. She opined that consideration should be given to designating the waters around west Lantau which was known to be a good haven for dolphins. As for the proposed marine park in the EIA report, she suggested commencing the designation process at early stage, so that the marine park could be in place once the 3RS construction was completed.

27. A Member remarked that AAHK had not done enough to protect CWDs, although the mitigation measures made in the EIA report was considered meeting the EIA-TM requirements. Two Members shared that Members had put forward suggestions on conservation and mitigation for CWDs only to be declined by AAHK on the grounds that they were taken not feasible/ difficult to implement without much elaborations. Another Member suggested exploring with AAHK the feasibility of reducing the construction works area to allow early preparatory work on the proposed marine park.

28. A Member remarked that the proposed marine park was not an important habitat for CWD. He was also uncertain on the return of dolphins after completion of the 3RS project. He echoed other Members' views that AAHK should provide more mitigation measures including designation of a marine park in the western waters of Lantau before commencement of the 3RS project, and to start the designation process early so that the marine park proposed in the EIA report could be declared immediately on full operation of the 3RS. He also suggested asking AAHK to consider relocating the SkyPier or temporarily suspending the SkyPier HSF service.

29. A Member relayed another Member's comments which had been copied for Members' reference before the meeting that the EIA report should be rejected on two grounds, namely (i) the content of the EIA report was not technically sound as AAHK did not have adequate knowledge about the habitat and behaviour of CWDs; and (ii) the proposed marine park in the EIA report and SCLKCMP should be upgraded to marine reserves for better protection of CWDs, as fishermen with special permit were still allowed to fish in marine parks. Two Members echoed that

a lot of information had not been analysed in depth in the EIA report.

30. A Member remarked that there were already lots of literature reviews on the construction impacts on CWDs. ACE/EIASC should therefore focus on the mitigation measures to be provided during the construction phase instead of the background details such as the size of the dolphin communities to be affected. She considered that the continued competitiveness of Hong Kong as the regional and international aviation hub hinged on the project. It was important to strike a balance between conservation of CWDs and maintaining the economic competitiveness of Hong Kong.

31. A Member suggested that AAHK should conserve an area with favourable conditions outside the works area as a temporary refuge for CWDs during the construction phase. This would allow the Government to go round the need to work through the relevant legislation process so that the conservation measures could be implemented as soon as possible. The Chairperson shared that an overall marine conservation plan for CWDs should be in place during the 3RS construction phase before the formal designation of the proposed marine park in 2023.

32. A Member considered that AAHK should discuss with the PRE CWD National Nature Reserve to consider restricting speed of vessels navigating in the PRE waters. AAHK should also consider imposing some control measures on HSFs operating at the SkyPier to limit the speed in the CWD core area in the PRE.

33. A Member shared the view for AAHK to explore the possibility of suspending HSF service at the SkyPier or relocating the pier to the west end of the airport island. Another Member suggested that AAHK should explore the possibility and assess the ecological impact of relocating the SkyPier, and compare this option with the suspension of the service. A Member remarked that AAHK should propose measures to reduce the frequency and volume of HSF traffic in the area.

34. Mr Joseph Sham reiterated the Government's commitment to the designation of the proposed marine park to tie in with the commencement of 3RS in 2023. The designation process would start before 2023. The suggestion of upgrading SCLKCMP to a marine reserve was not supported given that it would impose serious restrictions on fishing activities and the right of way of vessels in this part of very busy waters. He said that Fan Lau was a hotspot of CWDs and had been proposed for designation as a marine park for some years. Nevertheless, the Government did not have any firm plan of designating a marine park at Fan Lau. Further, AFCD at present was working on the designation of BMP and Shek Kwu Chau Marine Park by 2016 and 2018 respectively, and their resources were tied up for the purpose.

**Item 2 : Any other business**

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

**Item 3 : Date of next meeting**

36. The Chairperson informed Members that EIASC would meet on 19 August 2014 to continue discussion on the 3RS EIA report.

**EIA Subcommittee Secretariat  
August 2014**