

立法會
Legislative Council

LC Paper No. CB(4)834/15-16
(These minutes have been seen
by the Administration and
Airport Authority Hong Kong)

Ref : CB4/HS/1/14

**Subcommittee to Follow Up Issues Relating to the Three-runway System at
the Hong Kong International Airport**

**Minutes of the sixth meeting
held on Tuesday, 15 March 2016, at 8:30 am
in Conference Room 1 of the Legislative Council Complex**

- Members present** : Hon Andrew LEUNG Kwan-yuen, GBS, JP (Chairman)
Hon Dennis KWOK (Deputy Chairman)
Hon Albert HO Chun-yan
Hon CHAN Kam-lam, SBS, JP
Hon Abraham SHEK Lai-him, GBS, JP
Hon Jeffrey LAM Kin-fung, GBS, JP
Hon WONG Ting-kwong, SBS, JP
Dr Hon LAM Tai-fai, SBS, JP
Hon CHAN Hak-kan, JP
Hon CHAN Kin-por, BBS, JP
Hon Albert CHAN Wai-yip
Hon Steven HO Chun-yin, BBS
Hon Frankie YICK Chi-ming, JP
Hon WU Chi-wai, MH
Hon YIU Si-wing, BBS
Hon Charles Peter MOK, JP
Dr Hon Kenneth CHAN Ka-lok
Hon SIN Chung-kai, SBS, JP
Dr Hon Elizabeth QUAT, JP
Hon TANG Ka-piu, JP
Ir Dr Hon LO Wai-kwok, SBS, MH, JP
Hon Tony TSE Wai-chuen, BBS
- Members absent** : Hon LEE Cheuk-yan
Hon Cyd HO Sau-lan, JP

Hon Michael TIEN Puk-sun, BBS, JP
Hon CHAN Han-pan, JP
Hon Kenneth LEUNG
Dr Hon KWOK Ka-ki
Hon Christopher CHEUNG Wah-fung, SBS, JP
Hon Martin LIAO Cheung-kong, SBS, JP
Hon Alvin YEUNG Ngok-kiu

Attendance by invitation : Agenda item I

Transport and Housing Bureau

Mr YAU Shing-mu, JP
Under Secretary for Transport and Housing

Mr Andy YAU Pak-hang, JP
Head
(Airport Expansion Project Coordination Office)

Airport Authority Hong Kong

Mr Fred LAM Tin-fuk, JP
Chief Executive Officer

Mr Wilson FUNG Wing-yip
Executive Director, Corporate Development

Mr NG Chi-kee
Executive Director, Airport Operations

Mr Kevin POOLE
Executive Director, Third Runway

Clerk in attendance : Miss Mary SO
Chief Council Secretary (4)2

Staff in attendance : Miss Joyce CHING
Senior Council Secretary (4)2

Ms Jacqueline LAW
Council Secretary (4)2

Miss Vivian YUEN
Legislative Assistant (4)2

Action

I. Third Runway Concourse and Related Terminal Facilities, Including Green/Environmental-friendly and Innovative Features

LC Paper No. CB(4)704/15-16(01) -- Airport Authority Hong Kong ("AAHK")'s paper entitled "Third Runway Concourse and Related Terminal Facilities, Including Green/Environmental-friendly and Innovative Features "

The Subcommittee deliberated (index of proceedings attached at **Annex**).

Declaration of interest

2. Mr Jeffrey LAM and Mr Frankie YICK declared that they were AAHK Board members. Mr YIU Si-wing declared that his company provided coach and visa services at the Hong Kong International Airport ("HKIA").

Discussion

Air quality management

3. Mr SIN Chung-kai asked whether AAHK had conducted any estimation of the total carbon cost arising from the Three-runway System ("3RS") at the HKIA and whether it would buy carbon credits to compensate for its carbon footprints arising from the 3RS.

4. Executive Director, Corporate Development, AAHK responded that AAHK had commissioned a consultancy study in 2013 to assess carbon emissions arising from the 3RS. As to whether and how AAHK should offset its carbon footprint arising from the 3RS, he considered that it was an important decision that warranted more in-depth consideration and AAHK had yet to come to a decision on the matter.

5. Mr SIN Chung-kai asked whether AAHK had bought carbon credits to offset its carbon footprints arising from the existing Two-runway System.

6. Executive Director, Corporate Development, AAHK responded that AAHK currently did not have a corporate plan on carbon offsetting, as HKIA was designed with minimizing environmental footprint, including that of carbon, in mind. That said, AAHK had a small-scale scheme to purchase carbon credits to offset carbon emissions generated by a pre-defined scope of activities and events held by HKIA.

AAHK

7. At the request of Mr SIN Chung-kai, Executive Director, Corporate Development, AAHK agreed to provide an executive summary of HKIA Carbon Emission Study after the meeting.

8. Mr SIN Chung-kai said that one of the most effective ways to improve air quality in the airport was to require all airside vehicles to be electric vehicles ("EVs"). In the light of this, Mr SIN asked about the measures that had been/would be taken by AAHK to facilitate the transition of all airside vehicles to EVs.

9. Executive Director, Airport Operations, AAHK responded that since July 2013, AAHK had required all newly registered airside saloon vehicles to be EVs. By the end of 2017, all airside saloon vehicles would be EVs. The number of charging stations for EVs and electric ground support equipment would be increased to 290 by end of 2018. As part of AAHK's ongoing efforts to facilitate the transition to EVs and electric ground service equipment, charging stations would be installed widely as part of the 3RS project.

10. Mr YIU Si-wing noted from paragraph 15 of the AAHK's paper that as an on-going commitment to reduce emissions from the aircraft parked at the gates in the Third Runway Concourse ("TRC"), aircraft stands would be equipped with fixed ground power and pre-conditioned air to maintain the aircraft systems running whilst the engine was shut off. Mr YIU asked whether aircraft which needed to park at HKIA were all able to use aircraft stands equipped with fixed ground power and pre-conditioned air. Executive Director, Airport Operations, AAHK replied in the positive.

Energy efficiency

11. Mr Jeffrey LAM asked about the estimated electricity consumption by the TRC and related terminal facilities ("3RS Buildings") and whether such consumption would be economical.

12. Executive Director, Third Runway, AAHK responded that the energy saving features of the 3RS Buildings would be modelled on the success of the energy saving features adopted in Terminal 1 ("T1") and the Midfield Concourse. In general, to reduce energy consumption for the 3RS Buildings, passive and

active design techniques would be adopted where practicable to draw natural daylight into the building as much as possible to offset demand for artificial light use. The availability of daylight in the building would be optimized by featuring a mixture of high performance façade glazing and roof glazing strategy whilst maintaining visual comfort and preventing excessive cooling load at the same time. Details of the key energy saving features proposed for the 3RS Buildings were set out in paragraphs 7 to 10 of the AAHK's paper.

13. Mr Jeffrey LAM further asked whether AAHK would consider using the District Cooling System ("DCS") at Kai Tak Development ("KTD"), which was a centralized cooling system utilizing seawater to produce chilled water at the central plants and distributing the chilled water to consumer buildings in the KTD through underground water piping network, for the air-conditioning systems at HKIA under a 3RS.

14. Executive Director, Third Runway, AAHK responded that HKIA already had an extensive seawater cooling system for use by the air-conditioning systems inside the existing T1 and T2 and other HKIA buildings. AAHK planned to expand the existing seawater cooling system to cater for the modification/expansion of T2 into a full service processing terminal. Executive Director, Third Runway, AAHK further said that although the Midfield Concourse did not use seawater for cooling due to its long distance from the existing seawater cooling system located at T1, condensate water from air-conditioning system and recycled grey-water were used to cool the chiller systems in the Concourse to reduce the use of potable water.

15. Ir Dr LO Wai-kwok enquired whether the seawater cooling system at HKIA would be made a centralized one, as in the case of the DSC at KTD, under a 3RS.

16. Executive Director, Third Runway, AAHK responded that an expanded seawater cooling system would be constructed to serve both the existing and the 3RS Buildings that would also provide a level of backup for the existing system in case of a contingency situation.

17. Mr Albert CHAN requested AAHK to provide an assessment of the environmental impact of the seawater cooling system for the 3RS Buildings on Chinese White Dolphins. Executive Director, Third Runway, AAHK undertook to provide the information after the meeting.

18. Whilst opposing the development of HKIA into a 3RS, Mr Albert CHAN said that AAHK should consider using more solar panels for the TRC to enhance energy efficiency.

19. Executive Director, Third Runway, AAHK responded that AAHK would strive to source the most efficient solar panels available in the market for the TRC.

20. Responding to Mr Albert CHAN's enquiry on how the energy to be saved for the 3RS Buildings compared to the energy saved for the existing HKIA's buildings, Executive Director, Third Runway, AAHK said that it was difficult to provide an answer at this stage. Executive Director, Third Runway, AAHK however pointed out that with the use of more advanced energy efficient materials for the 3RS Buildings, the energy that could be saved for the 3RS Buildings should surpass the energy saved for the existing HKIA's buildings which had exceeded the energy efficiency targets under the Building Energy Codes or equivalent by some 20%.

Waste management

21. Mr Frankie YICK noted from page 11 of the AAHK's powerpoint presentation material that on-site processing of organic waste was one of the means taken by HKIA to minimize and reduce waste. In the light of this, Mr YICK asked whether the existing food waste processing facility at HKIA was able to process all food waste collected from all food outlets on the airport island.

22. Executive Director, Corporate Development, AAHK responded that food waste collected on the airport island was composted into soil conditioner for airport landscaping. As the food waste processing facility at HKIA was only designed to compost food waste into soil conditioner and in view of the limited need for soil conditioner on-site, AAHK had also contracted a company to convert food waste into fish feed in its plant in Tseung Kwan O.

23. Mr Frankie YICK further enquired whether AAHK would consider using biological treatment to turn food waste, collected from the airport island, into renewable energy.

24. Executive Director, Corporate Development, AAHK responded that AAHK would discuss with the Government on the possible use of its future Organic Waste Treatment Facilities in Siu Ho Wan of North Lantau, which would adopt biological technologies to stabilize the organic waste and turn it to useful compost products and biogas for energy generation.

Innovation and technology in HKIA

25. Mr Charles Peter MOK hoped that AAHK would engage more local technology companies to develop new technologies for application at HKIA to enhance efficiency and operation.

26. Chief Executive Officer, AAHK ("CEO, AAHK") responded that a Technovation Board was established by AAHK in 2015 to drive systematic technology application and development for supporting HKIA's long-term vision as a smart airport. Representatives from the aviation industry, research and development experts and technology professionals had been contributing professional and technological inputs to innovative ideas and business challenges faced by HKIA; advised on visionary and futuristic technology and innovation for HKIA; and facilitated the participation and development of local technologies at HKIA. Hitherto, HKIA had invited three companies in the HK Science and Technology Park to develop new technologies that would offer greater efficiency in its operation, the results of which had been positive. A case in point was the successful use of imaging for fault detection in HKIA's daily runway maintenance. CEO, AAHK further said that AAHK had also set up a HK\$20 million Technovation Fund to provide funding support for local start-up companies to develop prototypes which offered high potential to facilitate operational efficiency at the airport.

27. Mr WONG Ting-kwong asked whether the smart services and operations mentioned in the AAHK's paper and powerpoint presentation would only be implemented in HKIA upon the commissioning of the 3RS.

28. CEO, AAHK replied in the negative. HKIA had been applying and would continue to apply new technologies, where feasible, to improve passenger experience and operation efficiency. For instance, baggage arrival notification and location-based boarding alerts would be added to HKIA's mobile application "HKG MyFlight" and automatic document check (i.e. passport and travel VISA check), flight rebooking, self-boarding and late/lost bag recovery were being planned. Nevertheless, as innovation and technologies advancement were fast changing, their implementation at HKIA might be refined later taking into account the availability and readiness of the technologies and applications available at that time.

Enhancing personalized services

29. Mr YIU Si-wing said that to provide more personalized services to arriving passengers, particularly those on transit, HKIA should consider providing information on places to visit on Lantau Island, such as Hong Kong

Disneyland and Ngong Ping 360, through its mobile application "HKG MyFlight" and other means.

30. CEO, AAHK responded that AAHK would consider Mr YIU Si-wing's suggestion in paragraph 29 above in its continued efforts in enhancing personalized services for passengers. In addition to the personalized services which would be added and planned for feasibility study as set out in paragraph 27 of the AAHK's paper, other personalized services in the pipeline included allowing overseas travellers to buy air tickets together with SkyPier ferry tickets online and to notify arriving passengers who wished to take taxi the car plate numbers of the taxis which would carry them and the estimated fares.

Increasing automation to become less labour-dependent

31. Mr CHAN Kin-por noted from paragraph 25 of AAHK's paper that a tool-assisted baggage loading system, which was successfully trialled at HKIA in 2015, was planned for full implementation in 2016-2017. Mr CHAN hoped that AAHK could make available the technology of the tool-assisted baggage loading system to other organizations for use in their own baggage handling environment, if the technology was proven to have greatly reduced the risk of strain and injury caused by heavy lifting tasks to workers.

32. Mr CHAN Kin-por further noted from paragraph 29 of AAHK's paper that Radio Frequency Identification ("RFID") had been implemented to track baggage handling at HKIA. Although using RFID to track baggage handling at HKIA helped prevent loss of departure luggage at HKIA, Mr CHAN asked about the measure(s) that had been/would be taken by AAHK to ensure that all checked departure baggage would arrive at the destination airports on time for retrieval by the passengers concerned.

33. CEO, AAHK responded that in 2005, HKIA was the first international airport to adopt RFID for its Baggage Handling System ("BHS"). Since then, only a handful of airports outside Hong Kong had adopted RFID for their BHSs. CEO, AAHK hoped that with more airports using RFID to track baggage, the risk of baggage going missing should be greatly reduced. RFID was not a new technology and had long been widely used by, say, logistics companies, to track items. CEO, AAHK however pointed out that whether departure baggage would arrive on time for retrieval by the passengers concerned would also depend on the BHS of the destination airport. CEO, AAHK further said that with the use of the integrated RFID baggage tags at HKIA in future, the chance of arrival baggage attached with such tags being misplaced should be greatly reduced.

34. Whilst welcoming the use of the tool-assisted baggage loading system for handling baggage at HKIA to prevent workers from getting injured caused by

lifting heavy luggage, Mr TANG Ka-piu expressed concern that the use of this new system would result in some workers being made redundant.

35. CEO, AAHK responded that the reason for using the tool-assisted baggage loading system for handling baggage at HKIA was to prevent workers from getting injured caused by lifting heavy luggage and not to cut down the number of workers in handling baggage. Presently, HKIA had difficulty in attracting and retaining adequate number of workers to handle baggage. With the full implementation of the tool-assisted baggage loading system to complement the BHS in 2016-2017, the baggage handling environment would become more amenable to workers, including female workers.

36. Mr Frankie YICK said that HKIA should continue to explore ways to make its operation more automated so as to enhance efficiency and reduce reliance on labour. Mr YICK further said that there was no cause for concern that increasing automation at HKIA would result in loss of jobs as HKIA was still short of 5 000 to 6 000 workers.

37. Mr YIU Si-wing enquired about the amount of time that could be shortened from using the tool-assisted baggage loading system to handle baggage.

38. Executive Director, Airport Operations, AAHK responded that whilst using the tool-assisted baggage loading system to handle baggage would enhance efficiency, the amount of time that could be saved would not be significant. As explained earlier at the meeting, the main objective of using the tool-assisted baggage loading system was to take the heavy lifting condition out of the baggage handling environment so as to reduce the risk of strain and injury caused by heavy lifting tasks and make such working environment more amenable to female workers.

Connectivity

39. Ir Dr LO Wai-kwok enquired about the connectivity between the TRC and T1, T2 and the Midfield Concourse. Mr WU Chi-wai raised a similar question.

40. Executive Director, Third Runway, AAHK said that currently, T1 and T2 were connected by an Automated People Mover ("APM") and the Midfield Concourse was connected with T1 by an extended APM. A new APM system would connect the TRC with T2, and an APM Interchange Station would be provided at the basement of T2 to serve as the central transfer between T1, T2, TRC and SkyPier. Executive Director, Third Runway, AAHK further said that AAHK would ensure that the connecting time for passengers arriving at and

departing from the TRC to T2, T1 or the Midfield Concourse and vice versa would be within 50 minutes.

41. CEO, AAHK supplemented that in view of the relatively long distance between T2 and the TRC which was beyond walking distance, a high level of operational redundancy was required for the new APM system. In the event of failure of either two of the normal tracks, the third and backup track could substitute the failed track and maintain the pinched loop operation. A pinched loop consisted of a dual guideway configuration whereby trains travelled in a loop by reversing direction and changing lanes at the end stations.

AAHK 42. Mr Jeffrey LAM sought information on how to ensure that the new systems for the 3RS would be compatible with the existing ones.

Modification/expansion of T2

AAHK 43. Noting that T2 would be modified/expanded into a full service processing terminal arising from the expansion of HKIA into a 3RS, Mr WU Chi-wai requested information on the modifications to be made and the associated costs. CEO, AAHK agreed to provide the information after the design of the modified/expanded T2 was finalized. That said, CEO, AAHK pointed out that over 60% of the existing T2 would be retained. According to the latest design, the entire T2 foundation, substructures, and coach hall at Level 3, together with most of the building services facilities and airport system works, such as generators and transformers, chillers, lifts, etc., would be retained. Other floor levels would also be retained as far as possible but with modifications necessary to suit the expanded T2 layout.

Scope, design and cost of the 3RS project

44. Mr Albert CHAN queried whether the reason for changing the design of the TRC from a double "Y" design proposed in the HKIA Master Plan 2030 ("MP2030) to the present single "Y" design and not including the development of North Commercial District ("NCD") on the airport island into the 3RS project was to compress the cost of the 3RS project.

45. CEO, AAHK responded that as the study on the scheme design of the 3RS project conducted by AAHK in the past two years had confirmed that the single "Y" design of the TRC could already handle the additional 30 million passengers per annum as stipulated in MP2030, AAHK therefore did not see an immediate need to use a double "Y" design for the TRC in the 3RS project. Nevertheless, space had been set aside to expand the TRC to cater for a further additional 20 million passengers per annum if such need should arise after 2030. CEO, AAHK further said that the reason why the development of NCD was not

incorporated into the 3RS project was that such development was not intended to meet HKIA's growing traffic demand but to avoid the land concerned being left idle. AAHK was still in the course of examining the format to be adopted for developing the NCD.

46. Mr WONG Ting-kwong asked about the floor area of the TRC and the distribution of international and local brand names shops at the TRC. Mr WONG hoped that HKIA would let in more local brand name shops at the airport.

47. CEO, AAHK responded that the TRC would have a floor area of 280 000 m². AAHK had not yet begun to consider the concept of the retail space at the TRC, as the construction of the TRC was still several years away. CEO, AAHK further said that AAHK was a keen supporter of local culture. An area in T1 was recently designated to showcase only local brand name shops.

48. Mr Dennis KWOK urged AAHK to hire more local architectural firms to participate in the detailed design of the TRC, so as to broaden their experience and skills in undertaking major infrastructural projects.

49. Executive Director, Third Runway, AAHK responded that selection of architectural firms to design for the 3RS project was through open tender. That said, open tender would not necessarily result in international architect firms getting the jobs. For example, elements of the scheme design for the 3RS project were awarded to local architectural firms. Even if an overseas firm got the design job, the firm still required the assistance of local practitioners who were well-versed in the local context.

Immigration arrangements

50. Mr Jeffrey LAM requested information on whether passengers would make use of the existing immigration halls in T1 and T2 for immigration clearance and whether such facilities would have to be modified.

Dining at HKIA

51. Mr WONG Ting-kwong urged AAHK to address the long time required to order food at HKIA and the high prices charged by food outlets thereat. Mr WONG pointed that he recently had to wait for almost 45 minutes to order food at the airport and the price charged was much higher than a similar item in downtown Hong Kong. Mr Frankie YICK expressed similar views.

52. CEO, AAHK responded that AAHK planned to expand the dining facilities at T1 to provide a better experience to travellers. CEO, AAHK further

said that food operators at HKIA were prohibited to set food and/beverage prices higher than those at their own comparable Hong Kong downtown outlets for an identical item. In the case that these food operators did not operate any downtown outlets in Hong Kong, prices would be compared with the major food outlets in Hong Kong downtown tourist districts with comparable grade/class. CEO, AAHK added that any person who felt aggrieved by the food and/or beverage prices charged by a food operator(s) at HKIA could lodge his/her complaint with HKIA.

II. Any other business

Date of next meeting

53. The Chairman said that the next meeting of the Subcommittee would be held on 12 April 2016 at 10:45 am to discuss "Issues relating to Pearl River Delta airspace".

(Post-meeting note: The topic for discussion at the April 2006 meeting was modified to "Airport Runway Capacity Related Issues and Pearl River Delta Region Airspace Management")

54. There being no other business, the meeting ended at 10 am.

Council Business Division 4
Legislative Council Secretariat
8 April 2016

**Subcommittee to Follow Up Issues Relating to the Three-runway System at
the Hong Kong International Airport**

**Proceedings of the sixth meeting
on Tuesday, 15 March 2016, at 8:30 am
in Conference Room 1 of the Legislative Council Complex**

Time Marker	Speaker(s)	Subject(s)	Action required
Third Runway Concourse and related Terminal Facilities, Including Green/Environmental-friendly and Innovative Features			
000524 – 000632	Chairman	Welcoming remarks	
000632 – 000700	Administration	Opening remarks	
000700 – 002528	AAHK Administration Chairman	Powerpoint presentation by Airport Authority Hong Kong ("AAHK")	
002528 – 002942	Mr SIN Chung-kai AAHK	Air quality management AAHK was requested to provide an executive summary of Carbon Emission Study for the Hong Kong International Airport ("HKIA")	Para 7 of the minutes refers
002942 – 003352	Mr CHAN Kin-por AAHK	Automation of the Baggage Handling System ("BHS") Tracking of checked baggage	
003352 – 003800	Mr Jeffrey LAM AAHK	Declaration of interest Electricity consumption of the Third Runway Concourse ("TRC") and related terminal facilities ("3RS Buildings") Seawater cooling system New Automated Passenger Mover ("APM") for the Three-runway System ("3RS") Immigration arrangements for passengers departing for and arriving from the TRC	
003800 – 004135	Mr Dennis KWOK AAHK Administration	Follow-up questions to issues raised at previous meetings Timing for discussing the issues concerning airspace and air wall constraints	

Time Marker	Speaker(s)	Subject(s)	Action required
004135 – 004151	Mr Jeffrey LAM	AAHK was requested to provide information on: (a) whether the new systems for the 3RS would be compatible with the existing ones; and (b) whether passengers would make use of the existing immigration halls in T1 and T2 for immigration clearance and whether such facilities would have to be modified	Paras 42 and 50 of the minutes refer
004151 – 004600	Mr YIU Si-wing AAHK	Declaration of interest Enhancing personalized services	
004600 – 005005	Ir Dr LO Wai-kwok AAHK	Seawater cooling for HKIA under a 3RS Connectivity of HKIA under a 3RS	
005005 – 005418	Mr TANG Ka-piu AAHK	Impact of automating the BHS on workers	
005418 – 005941	Mr Albert CHAN AAHK	Scope, design and cost of the 3RS project	
05941 – 010421	Mr Charles Peter MOK AAHK	Providing platform to promote innovation and technology in HKIA	
010421 – 010900	Mr WONG Ting-kwong AAHK	Allocation of retail space in HKIA to more local brand name stores Dining at HKIA Implementation of new technologies in HKIA	
010900 – 011157	Mr Frankie YICK	Declaration of interest Waste management	
011157 – 011629	Mr WU Chi-wai AAHK	Modification/expansion of T2	
011629 – 011929	Mr Dennis KWOK AAHK Administration	Engagement of more local architectural firms to participate in the detailed design of the TRC	
011929 – 012153	Mr Albert CHAN AAHK	AAHK was requested to provide an assessment of the environmental impact of the seawater cooling system for the 3RS Buildings on Chinese White Dolphins	Para 17 of the minutes refers
012153 – 012456	Mr YIU Si-wing AAHK	Increasing automation to the BHS Air quality management	

Time Marker	Speaker(s)	Subject(s)	Action required
012456 – 012918	Mr Albert CHAN AAHK	Use of more solar panels for the TRC	
012918 – 013240	Mr WU Chi-wai Chairman AAHK	AAHK was requested to provide information on the modifications to be made to T2 and the associated costs	Para 43 of the minutes refers
Any other business			
013240 – 013308	Chairman	Date of next meeting	

Council Business Division 4
Legislative Council Secretariat
8 April 2016