

立法會
Legislative Council

LC Paper No. CB(4)415/15-16
(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 third meeting
held on Tuesday, 1 December 2015, at 10:45 am
in Conference Room 2 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 LEE Cheuk-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
Hon CHAN Hak-kan, JP
Hon CHAN Kin-por, BBS, JP
Hon Albert CHAN Wai-yip
Hon Michael TIEN Puk-sun, BBS, JP
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
Hon CHAN Han-pan, JP
Hon Kenneth LEUNG
Dr Hon KWOK Ka-ki
Hon Christopher CHEUNG Wah-fung, SBS, JP
Hon SIN Chung-kai, SBS, JP
Dr Hon Elizabeth QUAT, JP
Hon Martin LIAO Cheung-kong, SBS, JP
Ir Dr Hon LO Wai-kwok, SBS, MH, JP
Hon Tony TSE Wai-chuen, BBS

Members absent : Hon Cyd HO Sau-lan, JP
Dr Hon LAM Tai-fai, SBS, JP
Dr Hon Kenneth CHAN Ka-lok
Hon TANG Ka-piu, JP

Attendance by invitation : Agenda item I

Transport and Housing Bureau

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

Mr Wallace LAU Ka-ki
Deputy Secretary for Transport and Housing
(Transport) 4

Mr Henry CHU Chin-keung
Assistant Secretary (Airport Expansion Project
Coordination Office) A

Airport Authority Hong Kong

Mr Fred LAM Tin-fuk, JP
Chief Executive Officer

Mr Wilson FUNG Wing-yip
Executive Director, Corporate Development

Mr Kevin POOLE
Acting Executive Director, Third Runway

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

Staff in attendance : Mr Joey LO
Senior Council Secretary (4)2

Miss Vivian YUEN
Legislative Assistant (4)2

Action

I. Scope and cost of the three-runway system ("3RS") project, including 3RS reclamation design and cost control

LC Paper No. CB(4)275/15-16(01) -- Transport and Housing Bureau's paper entitled "Project Scope and Cost"

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

Withdrawal of membership

2. The Chairman informed members that he had received a letter dated 19 November 2015 from Dr Fernando CHEUNG informing his decision to withdraw from the membership of the Subcommittee.

Declaration of interests

3. Mr Jeffrey LAM, Mr Frankie YICK, Mr Albert HO and Mr CHAN Kam-lam declared that they were members of the Board of Airport Authority Hong Kong ("AAHK").

Discussion

Project management/cost control

4. Dr KWOK Ka-ki queried whether the Three-runway system ("3RS") project could be completed within the total estimated cost of \$141.5 billion in money-of-the-day ("MOD") prices, having regard to substantial cost overrun in several infrastructural projects, i.e. the reclamation and superstructures for the Hong Kong-Zhuhai-Macao Bridge ("HZMB") Hong Kong Boundary Crossing Facilities ("HKBCF") project had increased by some 18% from \$30,433.9 million to \$35,895.0 million; the construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link ("XRL") project had increased by some 30% from \$65 billion to \$85 billion; and the construction of Liantang/Heung Yuen Wai Boundary Control Point had increased by some 50% from \$16,253.2 million to \$24,803.2 million. As lack of construction manpower and shortage of construction materials were major factors attributing to the cost overrun as well as delay in the aforesaid projects and as these projects were still ongoing, Dr KWOK urged AAHK to postpone taking forward the implementation of the 3RS project at the Hong Kong International Airport ("HKIA") until it could ensure that there were adequate supplies of construction manpower and materials so as to avoid substantial cost overrun and delay in completing the 3RS project.

5. Under Secretary for Transport and Housing ("USTH") responded that as the existing two-runway system at HKIA would likely reach its maximum practical capacity of 420 000 Air Traffic Movements ("ATMs") per annum (or 68 ATMs per hour) in 2016 or 2017. As the 3RS project would take some eight years to complete, it was necessary for AAHK to commence the reclamation and construction works of the 3RS project as soon as practicable in order to maintain Hong Kong's competitiveness as a global and regional aviation hub.

6. Referring to paragraph 1.6.6.2 of the financial feasibility assessment report published by the Hongkong and Shanghai Banking Corporation Limited ("HSBC") on the HKIA's Master Plan 2030 ("MP2030") in May 2011, Mr LEE Cheuk-yan asked whether AAHK had paid due regard to the following recommendation made by HSBC in the report in that AAHK should run a high Capital Expenditure ("CAPEX") stress test where CAPEX exceeded the base case assumption by 20% as a result of the following five areas of uncertainty which could cause the actual construction cost to exceed the estimation risks:

- (a) High level design - Costing was based on a Master Plan level (i.e. very high level) whilst preliminary design and detailed design had yet to be undertaken;
- (b) Land reclamation - Land reclamation represented a significant proportion of the project cost and much of the land reclamation work required technologies which had not been widely used before. Additionally, preliminary land formation trials had not yet been conducted;
- (c) Environmental Impact Assessment ("EIA") approval - Approval had not been sought nor obtained, and any conditions to the EIA approval could have a material cost impact;
- (d) Preliminary quotes - Using historical quotes for key work elements was susceptible to cost underestimation due to bidder and purchaser bias; and
- (e) Risks - Certain risks identified by the engineering consultant had not been priced in the cost estimate.

Mr LEE said that as the estimated cost of land formation and marine works of the 3RS was \$56.2 billion, it was incumbent upon AAHK to ensure that such estimate had taken into account the machinery and material risks surrounding the land formation works.

7. Chief Executive Officer, AAHK ("CEO, AAHK") responded that to ensure that the estimated cost of the 3RS project at \$141.5 billion was reasonable and feasible, such estimation had been repeatedly assessed by independent financial consultants. AAHK would do its best to deliver the project within time and budget. To avoid cost overrun of the 3RS project, AAHK had been identifying and addressing all possible risks prior to project implementation. CEO, AAHK further said that HSBC had recently issued an updated financial arrangement report for the 3RS based on the latest project design. At the request of members, CEO, AAHK undertook to provide HSBC's latest report as well as the explanations for the reasons for the differences between the estimated total project cost based on MP2030's preliminary design at \$136.2 billion (in MOD) and the estimated total project cost at \$141.5 billion based on scheme design (in MOD) after the meeting.

AAHK

8. Mr Albert CHAN said that AAHK should suspend taking forward the implementation of the 3RS project until members had scrutinized all relevant reports, as had been done in the consideration of the development of the new airport in Chep Lap Kok. In this connection, Mr CHAN requested AAHK to provide all financial reports and technical feasibility study reports regarding the Third Runway Concourse ("TRC") scheme design. To ensure the needs and urgency of the 3RS, AAHK was also requested to provide information on the projected numbers of passengers that would use HKIA each year from 2016 up to 2030.

AAHK

9. Mr Tony TSE said that the Administration should learn its lessons from the cost overrun and delay of the XRL project to avoid the same problems from happening in the 3RS project.

10. USTH responded that the funding approach for the XRL project was different from that of the 3RS project where the latter was self-financed by AAHK. USTH undertook to provide information on how the Government would monitor the implementation of the 3RS project.

Admin

11. Noting that AAHK would adopt a matrix project management structure for the 3RS project, Mr YIU Si-wing asked whether there would be a penalty system to deter errors as an error committed by one of the project teams would have a knock on effect on the overall project.

12. CEO, AAHK responded that the adoption of a matrix project management structure was to ensure effective communication so that problems could be detected and tackled in the first instance and to prevent project management "optimism bias" from the Project Delivery Team ("PDT"). CEO, AAHK further said that he had confidence in the PDT to effectively manage the construction delivery.

13. Mr Michael TIEN noted that the Administration planned to employ consultants at an estimated cost of \$184.4 million for the provision of monitoring and verification services during the detailed design stage (\$90.7 million) and the construction stage (\$93.7 million) of the 3RS project. In the light of this, Mr TIEN asked whether the contracts to be entered into with the consultants would contain a demerit points scheme whereby consultancy fees would be deducted for unsatisfactory performance. Mr TIEN further asked whether there would be a noise expert on the consultancy team.

14. USTH responded that the Administration had yet to draw up relevant details for the concerned consultancy contracts. USTH further said that whilst these consultancies would not include noise expert, the consultants would be tasked to ensure that AAHK's work would fully comply with relevant statutory requirements and technical standards including the conditions as imposed in the relevant Environmental Permit ("EP") for 3RS granted by the Director of Environmental Protection ("DEP").

15. Mr Michael TIEN hoped that the consultancy contracts would include a demerit points scheme and an undertaking to ensure that the level of aircraft noise Ma Wan residents would be subject to would not be worse than the prevailing noise condition after the full commissioning of the 3RS.

Formation of land by reclamation

16. Mr Kenneth LEUNG noted that one of the major components of the 3RS project was the formation of approximately 650 hectares of land north of the existing airport island by reclamation. Mr LEUNG further noted that the ground conditions of the reclamation area comprised a thick layer of soft marine mud of varying thickness (averaging 15 metres ("m")), underlain by a layer of stiffer alluvium of 15 to 20m. About 40% of the reclamation was underlain by disused Contaminated Mud Pits ("CMPs") within the layer of marine mud. The contaminated mud was generally highly disturbed and was softer than the surrounding mud. Having considered the possible impacts on the environment, AAHK would use a non-dredged reclamation method, i.e. Deep Cement Mixing ("DCM"), in the CMP areas. Although DCM had been widely used in Asia (principally Japan and Korea) and Europe and America, Mr LEUNG asked about the measures that had been taken by AAHK to ensure that this technique, which had never been implemented in Hong Kong, would be successful for land formation for the 3RS project.

17. Acting Executive Director, Third Runway, AAHK responded that a series of site trials had been conducted to study the engineering and environmental feasibility and acceptability of DCM for land formation for the

AAHK

3RS project. The trials and the associated monitoring and testing had all been proven successful. At the request of members, Acting Executive Director, Third Runway, AAHK undertook to provide the results of the first trial and the associated monitoring and testing after the meeting.

18. Mr Albert CHAN said that the source of the marine sand would have a significant bearing on the cost of the reclamation works for the 3RS project, having regard to the large quantity of the marine sand required to be used for the reclamation works. In the light of this, Mr CHAN asked where the marine sand for the reclamation works of the 3RS project would come from and the estimated cost of the marine sand per tonne. Mr WU Chi-wai also asked whether AAHK had put in place a contingency plan in the event of difficulty in procuring adequate quantity of marine sand in the course of carrying out the reclamation works.

19. CEO, AAHK responded that the marine sand for the reclamation works of the 3RS project would be sourced from the Pearl River Delta ("PRD") Region. CEO, AAHK further said that he was presently unable to inform members of the cost of the marine sand for using in the reclamation works of the 3RS project, but the cost estimate of the reclamation works had already taken into account that the marine sand would be procured from outside Hong Kong, the associated inflation rates and contingency arrangements. AAHK and the Administration were actively in discussion with the Mainland authorities concerned on the procurement of the marine sand.

20. Mr WU Chi-wai asked whether the adoption of DCM could meet the requirement imposed by the Environmental Protection Department ("EPD") that the reclamation works of the 3RS project would not adversely affect water quality. CEO, AAHK replied that using DCM in the reclamation works was one of the 56 conditions set out in the EP granted by DEP on 7 November 2014.

21. Ir Dr LO Wai-kwok asked about the differences in the method(s) used in constructing the artificial island for the HZMB HKBCF project and that to be used for the formation of land by reclamation for the 3RS project, so as to avoid the problem being encountered by the HZMB HKBCF project in that movements of up to six or seven metres had occurred in various parts of the reclamation built by using a non-dredged seawall construction method.

22. Acting Executive Director, Third Runway, AAHK explained that the reclamation works of the 3RS comprised three main components, i.e. ground improvement, seawall formation and land formation. In view of the ground conditions and environmental considerations, a combination of meticulous techniques and procedures, which would comply with both the geotechnical as well as environmental requirements, would be adopted to strengthen the soft

marine mud which would be left in place but, at the same time, strong enough to ensure the formation of a stable platform. Details of the methods to be used were set out in paragraphs 9 to 15 of the AAHK's paper (Annex to LC Paper No. CB(4)275/15-16(01)).

23. On Ir Dr LO's further enquiry as to whether the progress of implementing the land formation by reclamation would be affected by the prescribed airport height restrictions, Acting Executive Director, Third Runway, AAHK replied in the negative as the heights of all the DCM barges or marine vessels (upon which the DCM rigs would be accommodated) for carrying out the reclamation works would not exceed the prescribed airport height restrictions imposed by the Civil Aviation Department.

Construction of the TRC

24. Mr Kenneth LEUNG queried whether the reason for changing the design of the TRC from a double "Y" design proposed in the MP2030 to the present single "Y" design was to compress the cost of the 3RS project. Mr LEUNG was of the view that AAHK should construct the TRC using the double "Y" design at the outset, instead of expanding the TRC from a single to a double "Y" design later to cater for additional passengers.

25. 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 TCR 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 TCR 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.

Modification/expansion of Terminal 2 ("T2")

26. Mr Tony TSE noted that with the expansion of HKIA into a 3RS, TS would be expanded to provide full-fledged terminal services, with a total floor area of 300 000 square metres ("m²"). Further noting that a North Annex Building ("NAB") and a South Annex Building ("SAB") would be constructed on both sides of T2 to house several key land transportation and building facilities, Mr TSE asked whether the aforesaid 300 000 m² included the NAB and the SAB.

27. Acting Executive Director, Third Runway, AAHK replied that the NAB and the SAB would occupy an additional area of 100 000 m².

Parking positions at HKIA

28. Mr YIU Si-wing said that due to lack of parking positions at HKIA, many aircraft could not park overnight at HKIA or could only park one night at HKIA. Mr YIU asked whether AAHK had any plans to increase the number of parking positions at HKIA.

29. CEO, AAHK responded that AAHK was actively exploring ways to increase parking positions at the current HKIA, including remote stands.

Expansion of SkyPier

30. Mr YIU Si-wing enquired whether there were any plans to expand the SkyPier at HKIA.

31. CEO, AAHK responded that AAHK had no plan to expand SkyPier at HKIA for the following reasons. First, SkyPier could cope with transit passengers' demand for ferry services to and from the nine ports in the PRD Region and Macao. Second, a limit was imposed by EPD on the number of ferry services which SkyPier could operate daily.

Motion

32. Dr KWOK Ka-ki moved the following motion:

"鑒於現時本港多個進行中的大型基建工程，特別是當局近日已承認港珠澳大橋工程將出現延誤，原因包括工程人手不足、物料短缺及各項技術困難等。就此，在確定本港有足夠人力及建築物料前，先押後開展機場三跑工程，以免多個工程同時進行，搶高造價及令各項工程進一步延誤，最終增加市民負擔。"

(Translation)

"That, there will be delays in numerous major infrastructure projects underway in Hong Kong, especially the Hong Kong-Zhuhai-Macao Bridge project which the Administration has admitted recently, for the reasons of insufficient labour for the projects, shortage of materials and various technical difficulties etc, the commencement of the Three-runway System project at the Hong Kong International Airport should be postponed before it is confirmed that there are sufficient manpower and construction materials in Hong Kong in order to avoid the scenario where the concurrent implementation of numerous projects pushes up the costs and causes further delays to the projects, thereby aggravating the burden on the citizens."

The voting results were as follows:

For the motion

Dr KWOK Ka-ki
Mr Albert CHAN
Mr LEE Cheuk-yan
Mr WU Chi-wai
Mr Dennis KWOK

Against the motion

Mr Tony TSE
Mr WONG Ting-kwong
Mr Christopher CHEUNG
Ir Dr LO Wai-kwok
Mr Frankie YICK
Mr Jeffrey LAM
Mr Abraham SHEK
Dr Elizabeth QUAT
Mr Michael TIEN
Mr CHAN Kin-por
Mr Steven HO
Mr Martin LIAO
Mr YIU Si-wing
Mr CHAN Han-pan

33. As five members were in favor of and 14 members were against the motion, the Chairman declared that the motion moved by Dr KWOK Ka-ki was negatived.

AAHK

34. Dr KWOK Ka-ki requested AAHK to provide information to support its claim that the 3RS project could be completed within budget and on time.

II. Any other business

Clerk

35. Mr Albert CHAN requested the Secretariat to strive to find the papers submitted by AAHK and the Administration to the Legislative Council ("LegCo") on the development of the new airport in Chep Lap Kok and the main areas of study by LegCo on the subject.

Date of next meeting

36. The Chairman said that the next meeting of the Subcommittee would be held on 5 January 2016 at 8:30 am to discuss the financial arrangement plan of the 3RS project.

37. There being no other business, the meeting ended at 12:40 pm.

Council Business Division 4
Legislative Council Secretariat
29 December 2015

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

**Proceedings of the third meeting
on Tuesday, 1 December 2015, at 10:45 am
in Conference Room 2 of the Legislative Council Complex**

Time Marker	Speaker(s)	Subject(s)	Action required
Scope and cost of the three-runway system ("3RS") project, including 3RS reclamation design and cost control			
000442 – 000555	Chairman	Welcoming remarks	
000555 – 000653	Administration	Opening remarks	
000653 – 003130	AAHK	Opening remarks Briefing by AAHK on the scope and cost of the three-runway system ("3RS") project	
003130 – 003625	Chairman Dr KWOK Ka-ki Administration	Project management/cost control	
003625 – 004031	Mr Kenneth LEUNG AAHK	Formation of land by reclamation Construction of the Third Runway Concourse ("TRC")	
004031 – 004443	Mr LEE Cheuk-yan AAHK	Project management/cost control AAHK undertook to provide explanations for the reasons for the differences between the estimated total project cost based on AAHK Master Plan 2030's preliminary design at \$136.2 billion in money-of-the-day ("MOD") and the estimated total project cost based on scheme design at \$141.5 billion (in MOD).	Para. 7 of the minutes refers
004443 – 004908	Mr Albert CHAN Chairman AAHK	Project management/cost control AAHK was requested to provide: (a) all financial reports and technical feasibility study reports on the 3RS regarding TRC scheme design; and (b) information on the projected numbers of passengers that would use the Hong Kong International Airport ("HKIA") each year from 2016 up to 2030.	Para. 8 of the minutes refers
004908 – 005314	Ir Dr LO Wai-kwok Chairman AAHK	Formation of land by reclamation	

Time Marker	Speaker(s)	Subject(s)	Action required
005314 – 005734	Chairman Mr Tony TSE Administration AAHK	Modification/expansion of Terminal 2 Project management/cost control The Administration undertook to provide information on how the Government would monitor the implementation of the 3RS project.	Para. 10 of the minutes refers
005734 – 010141	Mr YIU Si-wing Chairman AAHK	Project management/cost control Parking positions at HKIA Expansion of SkyPier	
010141 – 010555	Mr SIN Chung-kai AAHK	Financial feasibility assessment on the 3RS published by the Hongkong and Shanghai Banking Corporation Limited ("HSBC") in May 2011 AAHK undertook to provide HSBC's latest financial arrangement report on the 3RS based on the latest project design.	Para. 7 of the minutes refers
010555 – 011032	Mr WU Chi-wai AAHK	Formation of land by reclamation	
011032 – 011335	Mr Dennis KWOK Chairman AAHK	Formation of land by reclamation AAHK undertook to provide the results of the first trial on the Deep Cement Mixing method and the associated monitoring and testing.	Para. 17 of the minutes refers
011335 – 013737	Chairman Dr KWOK Ka-ki Mr Albert CHAN Mr LEE Cheuk-yan Mr WU Chi-wai Mr SIN Chung-kai Mr CHAN Han-pan Mr Michael TIEN Mr YIU Si-wing Mr Frankie YICK Ir Dr LO Wai-kwok Mr Tony TSE Mr Jeffrey LAM Mr WONG Ting-kwong Mr Christopher CHEUNG Mr CHAN Kin-por Mr Martin LIAO Mr Abraham SHEK Mr Steven HO	Motion moved by Dr KWOK Ka-ki	

Time Marker	Speaker(s)	Subject(s)	Action required
013737 – 014328	Mr Michael TIEN Chairman Administration	Proposed employment of consultants by the Administration at an estimated cost of \$184.4 million for the provision of monitoring and verification services during the detailed design stage (\$90.7 million) and the construction stage (\$93.7 million) of the 3RS project	
014328 – 014809	Mr Jeffery LAM Chairman Administration	Securing of manpower and marine sand for the 3RS project	
014809 – 015218	Mr CHAN Kam-lam Administration Chairman	Judicial review against the 3RS project	
015218 – 015303	Mr Albert CHAN Chairman	The Secretariat was requested to strive to find the papers submitted by AAHK and the Administration to the Legislative Council ("LegCo") on the development of the new airport at Chek Lap Kok and the main areas of study by LegCo on the subject.	Para. 33 of the minutes refers
015303 – 015404	Dr KWOK Ka-ki Chairman	AAHK was requested to provide information to support its claim that the 3RS project could be completed within budget and on time.	Para. 34 of the minutes refers
015404 – 015508	Mr Michael TIEN	The consultancy contracts should include a demerit points scheme and an undertaking to ensure that the level of aircraft noise Ma Wan residents would be subject to would not be worse than the prevailing noise condition after the full commissioning of the 3RS.	
015508 – 015616	Mr LEE Cheuk-yan Chairman Administration	Supply of marine sand	
Any other business			
015616 – 015650	Chairman	Date of next meeting	