For discussion on
10 March 2014

Legislative Council Panel on Information Technology and Broadcasting

Establishment of Fill-in Stations for the Digital Terrestrial Television Service of Radio Television Hong Kong

PURPOSE

This paper invites Members' views again on the proposal to establish 22 digital terrestrial television (DTT) fill-in stations to extend the network coverage of Radio Television Hong Kong's (RTHK) DTT service from 75% to around 99% of Hong Kong's population.

BACKGROUND

2. The Chief Executive-in-Council decided in September 2009 that RTHK should be tasked to fulfill the role of the public service broadcaster in Hong Kong, and that RTHK should be allocated resources and frequency spectrum so that it may develop an all-round broadcasting service to the community, including the provision of dedicated digital television (TV) channels. The provision of DTT service is part and parcel of RTHK's expanded scope of services set out in the RTHK Charter after confirming public support for the services during public consultation in 2009-10. The Charter was signed between the Administration and RTHK in August 2010.

3. In this regard, the first and foremost task of RTHK is to establish a DTT transmission network such that its TV programmes

can reach almost the entire population of Hong Kong. Similar to the two existing free TV licensees, i.e. Asia Television Limited (ATV) and Television Broadcasts Limited (TVB), RTHK needs to develop its DTT transmission network via some key hilltop sites (for covering large geographical areas) and a number of fill-in stations (for covering the areas not covered by the key hilltop sites). RTHK has established the transmission facilities on seven hilltop sites, namely Temple Hill, Kowloon Peak, Castle Peak, Golden Hill, Mount Nicholson, Cloudy Hill and Lamma Island by the end of 2013. RTHK's DTT network coverage has now reached about 75% of Hong Kong's population. To expand the coverage to almost the whole of Hong Kong's population comparable to the DTT services now being offered by the commercial free TV stations, RTHK needs to construct another 22 fill-in stations.

4. In discussing this proposal of fill-in stations at the Panel meeting on 9 December 2013, Members passed a motion urging the Administration to revert the proposal to the Panel for discussion after the funding proposal for the construction of the New Broadcasting House (New BH) for RTHK has been approved by the Public Works Subcommittee and the Finance Committee. As clarified in our response to the motion dated 13 February 2014, the establishment of 22 DTT fill-in stations is not related to the construction of New BH. Irrespective of the progress of the New BH project, RTHK is duty bound to implement its DTT service as promulgated in the RTHK Charter. The establishment of these 22 DTT fill-in stations is to fulfill that objective. It is necessary to seek the Panel's views on the proposal.

JUSTIFICATION

5. RTHK's DTT service aims to provide quality TV services that are not adequately provided by commercial TV broadcasters, and to provide a diversity of TV programmes to serve a broad spectrum of audiences and cater to the needs of the minority interest groups. Since 1 July 2012, RTHK has been conducting signal tests for the DTT channels. Trial run of the channels has

started from 12 January 2014 with three high definition DTT channels, namely RTHK TV channels 31, 32 and 33. RTHK TV channel 31 is a flagship channel which offers general programming with current affairs, education, arts and culture. RTHK TV channel 32 is a live event channel which covers Legislative Council meetings every Wednesday and any other important local press conferences and events of public interest. RTHK TV 33 is a relay of China Central Television Channel 9 Documentary. At present, RTHK TV channel 31 broadcasts 8.5 hours (5:00 p.m. to 1:30 a.m.) daily Monday to Friday and 13.5 hours daily (12:00 p.m. to 1:30 a.m.) on Saturday and Sunday. RTHK will progressively increase transmission hours subject to availability of resources.

6. Given Hong Kong's mountainous terrain and dense clusters of high-rise buildings, it is essential to establish a total of 22 fill-in stations to further extend RTHK's DTT network coverage so that almost the entire population can be covered. This is similar to what has been done by the two incumbent free TV licensees for their DTT services.

7. To achieve cost effectiveness and save time in establishing RTHK's DTT network, RTHK's development strategy is to set up transmission facilities at the existing transmitting stations of ATV and TVB so as to share space, electricity supply and transmission antennae at their existing sites. Hence, the proposed fill-in stations are to be established at the existing sites of fill-in stations of ATV and TVB. The proposal will enhance the coverage of RTHK's DTT service from about 75% to around 99% of Hong Kong's population, matching that of the other commercial DTT broadcasters.

8. The proposed supplementary network of fill-in stations will be built by phases and is planned for completion by the first quarter of 2019. Without the establishment of the supplementary network of fill-in stations, about 24% of Hong Kong's population will be deprived of access to RTHK's DTT programmes. The affected areas include parts of Cheung Sha Wan and Shamshuipo, parts of Chai Wan and Siu Sai Wan at Hong Kong Island East, parts

of Aberdeen and Ap Lei Chau at Hong Kong Island South, parts of Hin Tin and Tai Wai at Shatin, Robin's Nest at New Territories North East, parts of Yuen Long at New Territories West, Sham Tseng, parts of Clearwater Bay and Tseung Kwan O, Lantau Island South and Mui Wo. We have indeed received enquiries and complaints on a daily basis from members of the public residing in areas which are beyond the existing reach of RTHK's DTT transmission networks.

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FINANCIAL IMPLICATIONS

9. We estimate that the capital cost of the project will be $64.2 million, with the breakdown as follows -

			$ million
(a)	Construction of equipment cubicles		11.4
(b)	Procurement and installation of DTT transmission equipment –		46.3
	(i) DTT Transmitters/On-channel Transposers	18.4	
	(ii) Radio Frequency (RF) Combiners	8.3	
	(iii) Studio-to-Transmitter Link Equipment	8.4	
	(iv) Supervisory Control and Data Acquisition system	11.2	
(c)	Contingency		6.5
	Total		**64.2**

10. Regarding paragraph 9(a) above, subject to detailed site investigation, it is estimated that about 14 sites require construction of a cubicle to install the transmission equipment, at a cost of about $0.8 million per site. For the remaining eight sites, we will share the existing equipment room of the respective TV operators to

accommodate our transmission equipment.

11. Regarding paragraph 9(b) above, the equipment listed out in items (i) to (iv) is required for the 22 fill-in stations for the transmission of the DTT signals and operation of the fill-in stations. The cost of installation of electrical and mechanical equipment is also included. Procurement and installation of the equipment is necessary since RTHK is using a different frequency channel for provision of the DTT service, and thus it is technically not possible for RTHK to share the use of other TV operators' existing equipment except the common facilities such as electricity equipment, antenna and space.

12. Regarding paragraph 9(c) above, contingency is provided for any unforeseen circumstances during project implementation such as unforeseen site conditions.

13. The estimated cash flow requirement for the project is as follows –

Year	**$ million**
2015-16	17.0
2016-17	18.7
2017-18	17.1
2018-19	11.4
Total	**64.2**

14. The additional annual recurrent expenditure for operating and maintaining the equipment at the fill-in stations is around $14.6 million and will be absorbed within RTHK's existing resources.

IMPLEMENTATIN PLAN

15. We plan to install the 22 fill-in stations by phases starting from April 2015. The whole project is expected to take about four years for completion by the first quarter of 2019 as set out

below –

	DTT fill-in Stations	**Target completion date**
(a)	Beacon Hill, Brick Hill, Sai Wan Shan, Hill 374 and Pottinger Peak (5 fill-in stations)	March 2016
(b)	Stanley Hill, Tai Po Tsai, Hill 275, Hill 297, Chiu Keng Wan Shan and Ap Lei Chau (6 fill-in stations)	March 2017
(c)	Piper's Hill, Sheung Yeung Shan, Robin's Nest, Cheung Chau, Tai O and Hill 141 (6 fill-in stations)	March 2018
(d)	Ying Pun, Kau Wa Keng, Tung Chung, Sham Tseng and Pokfulam (5 fill-in stations)	March 2019

16. We plan to start the preparation work in the second quarter of 2014. The works include the conduct of feasibility studies, site surveys, site designs, and discussion with the TV operators of the respective sites. Upon completion of the preparation work, we plan to start the tendering process in the third quarter of 2014. A work programme is set out at the **Enclosure**.

ADVICE SOUGHT

17. Members are invited to comment on the proposal. Subject to Members' views, we plan to seek funding approval from

the Finance Committee in the second quarter of 2014.

Commerce and Economic Development Bureau
Radio Television Hong Kong
March 2014

Enclosure

Work Programme for
Establishment of Fill-in Stations for the Digital Terrestrial Television Service of Radio Television Hong Kong

	Work Items	Duration (months)	2014		2015		2016		2017		2018		2019
			1 - 6	7-12	1 - 6	7-12	1 - 6	7-12	1 - 6	7-12	1 - 6	7-12	1 - 6
	(a) Tendering Stage												
1	Preparation work and discussion with the television operators of the sites and related Departments	2											
2	Feasibility studies and site survey	2											
3	Site designs	1											
4	Tendering process for construction of equipment cubicles and procurement of transmission equipment	7											
	Sub-total (a)	**12**											
	(b) Construction Period												
5	Phase 1 - Beacon Hill, Brick Hill, Sai Wan Shan, Hill 374 and Pottinger Peak	12											
6	Phase 2 - Stanley Hill, Tai Po Tsai, Hill 275, Hill 297, Chiu Keng Wan Shan and Ap Lei Chau	12											
7	Phase 3 - Piper's Hill, Sheung Yeung Shan, Robin's Nest , Cheung Chau, Tai O and Hill 141	12											
8	Phase 4 - Ying Pun, Kau Wa Keng, Tung Chung, Sham Tseng and Pokfulam	12											
	Sub-total (b)	**48**											
	Total	**60**											