

## **ITEM FOR FINANCE COMMITTEE**

### **HEAD 160 – RADIO TELEVISION HONG KONG**

#### **Subhead 603 – Plant, Vehicles and Equipment**

#### **New Commitment “Establishment of Fill-in Stations for the Digital Terrestrial Television Service of Radio Television Hong Kong”**

Members are invited to approve a new commitment of \$64.2 million for establishment of fill-in stations for the digital terrestrial television service of Radio Television Hong Kong.

### **PROBLEM**

We need to establish fill-in stations to extend the network coverage of Radio Television Hong Kong (RTHK)’s digital terrestrial television (DTT) service from 75% to around 99% of Hong Kong’s population.

### **PROPOSAL**

2. The Director of Broadcasting, with the support of the Secretary for Commerce and Economic Development, proposes to establish 22 DTT fill-in stations to extend the network coverage of RTHK’s DTT service at an estimated cost of \$64.2 million.

### **JUSTIFICATION**

#### **Provision of DTT service**

3. The Chief Executive in Council decided in September 2009 that RTHK should be tasked to fulfill the role of the public service broadcaster (PSB) in Hong Kong, and that RTHK should be allocated resources and frequency

/spectrum .....

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.

4. One of the first and foremost tasks of RTHK is to establish a DTT transmission network such that its DTT service can reach almost the entire population of Hong Kong. As with 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 key 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.

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 for the needs of the minority groups. Since 1 July 2012, RTHK has been conducting signal tests for the DTT channels. Trial run of the channels had started from 12 January 2014 with three high definition DTT channels, namely RTHK TV channels 31, 32 and 33. RTHK TV channel 31 is the 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 (LegCo) meetings every Wednesday and any other important local press conferences and events of public interest. RTHK TV 33 relays the 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 from Monday to Friday and 13.5 hours (12:00 p.m. to 1:30 a.m.) daily on Saturday and Sunday. The remaining hours (1:30 a.m. to 5:00 p.m. on weekdays and 1:30 a.m. to 12:00 p.m. on weekends) are signal test time slots of RTHK TV channel 31. These slots are for the relay of news headlines, promotion flips and weather information charts. During the channel trial run phase, the programming does not represent RTHK's full television production and output. Subject to the progress of channel trial run and progress of the New Broadcasting House project, RTHK may increase transmission hours progressively.

/Need .....

### **Need for extending the DTT network coverage**

6. Given Hong Kong's mountainous terrain and dense clusters of high-rise buildings, it is essential to establish the 22 fill-in stations to further extend RTHK's DTT network coverage so that almost the entire population can be covered. Upon completion of these 22 fill-in stations, RTHK will have a total of 29 transmitting stations (principal stations and fill-in stations) which are the same as those of the two incumbent free TV licensees for their DTT services.

7. To ensure cost effectiveness and save time, RTHK's network 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. 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 commercial DTT broadcasters. The sharing arrangements are subject to negotiations with the two licensees on the basis of the guidelines on the shared use of transmission sites issued by the Office of the Communications Authority.

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 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 network.

## **FINANCIAL IMPLICATIONS**

### **Non-recurrent Expenditure**

9. We estimate that the capital cost of the project will be \$64.2 million, broken down as follows –

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	<b>\$ million</b>
(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
<b>Total</b>	<b>64.2</b>

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 its DTT service, and thus it is technically not possible for RTHK to share the use of other TV operators' existing equipment except for common facilities such as electricity equipment, antenna and space.

12. Regarding paragraph 9(c) above, a 10% 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 –

<b>Year</b>	<b>\$ million</b>
2015-16	17.0
2016-17	18.7
2017-18	17.1
2018-19	11.4
<b>Total</b>	<b>64.2</b>

### **Recurrent Expenditure**

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.

### **IMPLEMENTATION PLAN**

15. We plan to install the 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 –

	<b>DTT fill-in stations</b>	<b>Target completion date</b>
(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

Encl. 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**.

## **PUBLIC CONSULTATION**

17. We consulted the LegCo Panel on Information Technology and Broadcasting on 9 December 2013 and 10 March 2014. Members generally supported the proposal.

## **BACKGROUND**

18. As part and parcel of the service package as the PSB in Hong Kong, RTHK is providing progressively DTT service with three TV channels. Subject to the completion of the necessary technical infrastructure and the result of the DTT channel trial run, RTHK plans to fully launch its DTT service after the commissioning of the new Broadcasting House when the required space and facilities are available.

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Commerce and Economic Development Bureau  
May 2014

		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
	<b>Work Items</b>												
	<b>(a) Tendering Stage</b>												
1	Preparation work and discussion with the relevant free TV licensees 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											
	<i>Sub-total (a)</i>	12											
	<b>(b) Construction Period</b>												
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											
	<i>Sub-total (b)</i>	48											
	<b>Total</b>	60											