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30 December 2013

Ms Annette Lam
Clerk to Public Works Subcommittee
Legislative Council
1 Legislative Council Road
Central, Hong Kong

Dear Ms Lam,

Public Works Subcommittee
Follow-up to meeting on 18 December 2013
(69KA - New Broadcasting House of Radio Television Hong Kong)

At the PWSC meeting held on 18 December 2013, Members requested the Administration to provide supplementary information on the construction of New Broadcasting House of Radio Television Hong Kong. We submit the requested information at the Annex and would be grateful if you could circulate it to Members for their reference.

(Aaron Liu)
for Secretary for
Commerce and Economic Development

c.c. Director of Broadcasting
Director of Architectural Services
Secretary for Financial Services & the Treasury (Attn: Ms Joyce Ho)

**Meeting of Public Works Subcommittee held on 18 December 2013
Supplementary Information requested by Members**

69KA – New Broadcasting House of Radio Television Hong Kong

Purpose

At the Public Works Subcommittee meeting held on 18 December 2013, members requested the Administration to provide supplementary information on the construction of the New Broadcasting House (New BH) of Radio Television Hong Kong (RTHK). This paper provides the information requested.

Background on the Project Cost Estimate

[Item 1, 3, 7, 11 and 16(d) of the List of issues requiring follow-up actions (List)]

2. The RTHK premises in Kowloon Tong came into operation in the 1960s and 1970s. As the three existing RTHK buildings are small in size with obsolete facilities, they are unable to meet the service requirements of RTHK. The Government decided in 2000 to construct a New BH and conducted the first preliminary project technical feasibility study (2000 Study) on the basis of the scope of services at that time. A site in Area 86, Tseung Kwan O (TKO Area 86) was then identified for the construction of the new BH, and the cost of the project was estimated to be \$1,500 million at 1999 price level. However, the project did not enter the detailed design stage because of firstly the economic downturn and then the conduct of the review of the public service broadcasting.

3. On 22 September 2009, the Chief Executive in Council (CE in C) decided that RTHK would be tasked to take up the mission as the public service broadcaster (PSB) in Hong Kong and should expand its scope of services. From October 2009 to January 2010, the Government conducted a comprehensive public engagement exercise on the expanded scope of services of RTHK. After confirming public support, the expanded scope of services was

incorporated into the RTHK Charter. The scale of and the facilities required for the New BH are proposed on the basis of the operational requirements arising from the new services.

4. On 22 September 2009, we issued the Legislative Council (LegCo) Brief on the Government's decision on the public service broadcasting and future of RTHK. In this LegCo Brief, the Administration mentioned that the construction of a new BH would cost an estimate of \$1,600 million, subject to the detailed architectural design and accommodation requirements. This was based on the estimated construction cost given in 2000 Study with the cost adjusted to 3Q 2009 price level (Building Works Tender Price Index, BWTPPI), **without taking into account the cost of the additional facilities and equipment required for the various new services to be undertaken by RTHK after it had been tasked to fulfill the role of the PSB and the need for re-examination of architectural design requirements.**

5. In 2011, taking into account RTHK's new operational requirements and the new site in TKO Area 85, the Architectural Services Department (ArchSD) completed a second technical feasibility study on the New BH and later invited tender for the project through a design-and-build (D&B) procurement method based on the findings of the study. According to the tender prices received in 2013, the estimated expenditure of the project was \$6,055.6 million in money-of-the-day (MOD) prices. **The validity period of the tender was up to 20 March 2014.**

6. **Given that the project estimate of \$6,055.6 million is based on the new site and new requirements and that reference has been made to tender results received and the provision of price adjustments, we consider inappropriate to make a comparison with the estimate given in the 2000 study.** If it is necessary to make a rough analysis on the difference in cost estimates, please refer to **Appendix 1** (the revised Enclosure 14 of PWSC (2013-14)28).

7. In the event that the scale of the project is to be cut down, the construction project of the New BH will have to be put up for re-tendering and **the whole project will be delayed for at least 18 to 24 months**, meaning that the New BH will not be ready for use until 2020 at the earliest. Given that the existing facilities in RTHK are seriously inadequate and unserviceable, it will

be very difficult for RTHK to maintain its services till 2020. If the New BH cannot be commissioned for use in 2018 as scheduled, the progress of implementing new services by RTHK will certainly be hindered.

8. Furthermore, the cost of construction has to be re-estimated in line with the level of adjustments in the project scale. In view of all the uncertain factors (including inflation, salaries, commodity prices, etc) associated with a delay in the commencement of the construction work, **the cost of the construction project by then may not be reduced in proportion to the adjusted project scale.**

Construction Unit Cost

[Item 4(b), 5 and 6 of the List]

9. Following the established practice of submitting the funding applications of government capital works projects to the Finance Committee and Public Works Subcommittee for consideration, the construction unit cost provided in the PWSC Paper for this project is represented by two components, namely the **building cost** and **building services cost**. This is because the cost of other components including site works, piling works, drainage works and external works are directly affected by the topography, geology as well as developments and facilities in the vicinity, the relative weighting of these costs to the total costs varies considerably across different projects. Hence, the Administration will not normally include these costs when making comparisons on the basis of construction unit cost. In addition, given that the construction cost varies with time, it is necessary to adjust the unit cost to the same price level when comparing the unit cost of projects undertaken in different periods.

10. The estimated construction unit cost of the New BH Project is \$36,688 per m² of construction floor area (CFA) in September 2013 prices. **As the New BH is a purpose-built building with unique features and functionality, we could not make direct comparison with other types of government projects.** If we were to compare the New BH with another government project, the construction unit cost of the West Kowloon Law Courts (PWP No. 31LJ) currently under construction is \$30,672 per m² of CFA in September 2013 prices. However, the New BH has various broadcasting-related specialist facilities including the requirements for higher

floor loading, long-spanned structures, extra high storey heights for the radio continuity/production studios and TV studios, proprietary products for sound broadcasting and TV production (e.g. lighting platforms and seats for the audience), stringent sound and vibration insulation requirements (box-in-box design), as well as enhanced reliability of building services. If the costs of these specialist facilities are deducted, the estimated unit construction cost of the New BH should be adjusted to \$30,688 per m² of CFA in September 2013 prices, which is comparable to the West Kowloon Law Courts (PWP No. 31LJ). Please refer to **Appendix 2** for the comparison of the construction unit cost with the West Kowloon Law Courts.

11. If compared with the major design and build projects undertaken by the ArchSD in recent years, the construction unit cost of the New BH is also considered reasonable. The table below shows the comparison of the construction unit cost of the New BH with the major design and build projects undertaken by the ArchSD in descending order, which shows that the construction unit cost of the New BH is within reasonable level.

Project		Total Construction Cost (million) (in MOD prices)	Construction unit cost (per m ² of CFA)	Construction unit cost adjusted to September 2013 prices (per m ²)	Nature of Project
76LC	Redevelopment of Tai Lam Centre for Women	\$946.6	\$36,920	\$41,801	Correctional institution
			September 2011 prices		
277LP	Reprovisioning of Yau Ma Tei Police Station	\$982.9	\$38,080	\$40,234	Police Station
			September 2012 prices		
76MM	Establishment of the Centre of Excellence in Paediatrics	\$ 12,985.5	\$35,882	\$37,912	Hospital
			September 2012 prices		
63MM	North Lantau Hospital, phase 1	\$ 2,482.0	\$26,998	\$37,666	Hospital
			September 2009 prices		
69KA	New BH	\$6,055.6	\$36,688	\$36,688	Broadcasting House/ Office
			September 2013		

Project		Total Construction Cost (million) (in MOD prices)	Construction unit cost (per m ² of CFA)	Construction unit cost adjusted to September 2013 prices (per m ²)	Nature of Project
			prices		
07GA	Cruise terminal building and ancillary facilities for the Kai Tak cruise terminal development	\$5,852.1	\$24,095	\$33,616	Cross-boundary Facilities
			September 2009 prices		
63KA	Tamar development project	\$5,168.9	\$14,500	\$31,302	Office/ Conference
			September 2005 prices		
31LJ	West Kowloon Law Courts Building	\$2,723.1	\$27,091	\$30,672	Law courts
			September 2011 prices		
173BF	Redevelopment of Fire Services Training School	\$3,562.5	\$25,560	\$28,939	Fire service facilities
			September 2011 prices		
109KA	Construction of Trade and Industry Tower in Kai Tak Development Area	\$2,645.1	\$23,778	\$26,922	Office
			September 2011 prices		

12. Given that the difference in the cost components included, we could not make a direct comparison between the construction unit cost of the government projects and private developments. If we need to make a comparison with office developments in the private sector, the cost estimate of the New BH should be adjusted. A rough analysis is at **Appendix 2**.

13. To mitigate the financial risk of the tenderers, ArchSD has engaged consultants to carry out site investigation, landfill gas hazard assessment, Preliminary Environmental Review, micro-climate and landfill odour study and Traffic Impact Assessment at the tender preparation stage. The department also engaged consultants on acoustic and vibration, and electronic and telecommunications equipment installation to assist in the compilation of

design specification, and clearly set out these requirements in the tender documents. Hence, there is no question of tender prices being pitched at above reasonable level because the tenderers do not fully understand the design requirements.

Design of New BH and Efficiency

[Item 2 of the List]

14. The New BH is designed according to the operational requirements. The net operational floor area¹ (NOFA) of the New BH is about 27,660 m². These include sound broadcasting facilities, digital terrestrial television broadcasting facilities, news centre, miscellaneous areas for engineering and media asset management, office accommodation for staff, departmental common facilities, information technology and new media technical facilities as well as specialist facilities.

15. The ratio between NOFA and CFA varies according to the design of each floor of the New BH. Given the production requirements, the corridors linking the workshops, TV studios and radio studios are wider than that of the general office areas to facilitate the transportation of large-size scenery and equipment, and hence, the ratio between NOFA and CFA of the relevant floors is relatively low. In addition, given the need to provide sufficient space to facilitate the entry and exit of audience participating in programmes and the provision of sufficient toilet facilities, the ratio between NOFA and CFA of G/F and 1/F is also relatively low. However, for the office floors, as the corridors and other facilities are used for staff only, the ratio between NOFA and CFA for these floors is relatively high and is comparable to other government office building projects.

16. The ratio between NOFA and CFA of each floor of the New BH is as follows —

Floor	Main Purpose	NOFA (m²)	CFA (m²)	Ratio (NOFA /CFA)
R/F	Roof-top mechanical	31.3	1,341.7	2.34%

¹ NOFA does not include areas for lift lobbies, stair halls, corridors, stairwells, escalators and lift shafts, pipe/services ducts, toilets, bathrooms and showers, barrier-free access and gender mainstreaming facilities, refuse chutes and refuse rooms, verandas, open decks and flat roofs, car parking spaces, loading/unloading areas, mechanical plant rooms, etc

	plant room			
9/F	Office	2,044.5	3,784.0	54.03%
8/F	Office	1,867.9	3,783.7	49.37%
7/F	Office	2,204.6	3,895.3	56.60%
6/F	Office	2,195.8	4,204.9	52.22%
5/F	Archive and Library	2,233.5	4,240.4	52.67%
4/F	Mechanical plant rooms	16.7	6,362.7	0.26%
3/F	Continuity studios of Radio Block and main air- conditioning plant room of TV Block	3,024.7	10,195.6	29.67%
2/F	Stores	3,789.3	10,715.5	35.36%
1/F	Main mechanical plant rooms	2,924.0	13,528.0	21.61%
GM/F	Mechanical plant rooms	0	3,754.4	-
G/F	Main functional areas	7,323.6	18,630.4	39.31%
Total		27,656.0	84,436.5	32.75%

The distribution of NOFA and CFA of each floor is at **Appendix 3**.

17. The comparison of the ratio between NOFA and CFA of the New BH with that of other government major projects is as follows —

Project		NOFA (m ²)	CFA (m ²)	Ratio (NOFA /CFA)	Nature of Project
109KA	Construction of Trade and Industry Tower in Kai Tak Development Area	33,000	66,000	50%	Office
173BF	Redevelopment of Fire Services Training School	30,477	74,175	41%	Fire service facilities
63KA	Tamar development project	78,430	201,910	39%	Office / Conference
277LP	Reprovisioning of Yau Ma Tei Police Station	5,309	15,680	34%	Police Station
76LC	Redevelopment of Tai Lam Centre for Women	4,637	13,700	34%	Correctional institution
69KA	New BH	27,660	84,436	33%	Broadcasting house / Office

07GA	Cruise terminal building and ancillary facilities for the Kai Tak cruise terminal development	41,500	143,600	29%	Cross-boundary facilities
76MM	Establishment of the Centre of Excellence in Paediatrics	46,080	164,965	28%	Hospital
31LJ	West Kowloon Law Courts Building	16,500	60,320	27%	Law courts
63MM	North Lantau Hospital, phase 1	13,041	48,978	27%	Hospital

Independent Operation of Building Services Installation

[Item 11 of the List]

18. **At present, the Radio Division and TV Division of RTHK are able to support each other in case of emergency to avoid disruption of broadcasting service. This arrangement will continue in the New BH.** In view of the importance of public service broadcasting to the general public, it is necessary to ensure that the radio and TV broadcasting services are not disrupted. To this end, the specifications and equipment of the building services system will adopt the following standards -

(a) **Dual Feed Power Supply**

The broadcasting system and its associated building services installation in the New BH will adopt dual feed power supply, i.e. when there is a failure of the primary power supply system or undergoing maintenance, another power supply path will instantly take over. This is to avoid service disruption resulting from malfunction of the broadcasting system in the event of power failure under a single power supply system. The dual power supply system can also ensure the New BH to provide uninterrupted broadcasting services in case of emergency and maintenance works.

In recent years, the Government has adopted the dual power supply arrangement in major and important projects, such as new hospital buildings, the Kai Tak Cruise Terminal Building and the Central Government Complex. Furthermore, **local facilities for broadcasting and motion production** such as the Shaw Studios, TVB City and Now TV **have long adopted dual power supply system**. Built to even higher specifications, the CCTV headquarters in Beijing has a third power supply source in place as a backup of the second one in addition to dual feed power supply.

(b) Dual Feed Data Transmission System

Similar to power supply, the dual feed data transmission system aims to ensure that the radio station can provide uninterrupted broadcasting services. The communication cables of the New BH are connected to the telecommunications and broadcasting equipment rooms by a dual feed system. When a data line breaks down, the communication system can use the other data line to maintain uninterrupted broadcasting services.

The Shaw Studios and TVB City have both adopted dual data transmission system to connect to their two telecommunications and broadcasting equipment rooms. Similarly, for the CCTV Headquarters in Beijing, its communication cables are also connected in a dual feed system. Besides, its communication cables connecting to the old CCTV building and the State Administration of Radio, Film and Television are still in place, which can provide support during emergency.

(c) Fire Service System

The New BH comprises of three blocks, including television, radio and administration. To avoid the disruption of broadcasting service to the public due to a shut-down of all facilities in the building when the fire service system in a certain area is activated, these three blocks of the building each has its own means of escape and fire service installation system.

19. There are views that given the need for the introduction of separate operation systems, the operation of RTHK should be located in different locations (such as in Hong Kong Island and Kowloon) to diversify risks. However, this proposal, if implemented, will seriously affect the daily operation of RTHK because different sections under RTHK have to support each other. As some sections are required to provide services both to the radio and the television division, they should not be located in different locations. In fact, since RTHK at present has to operate at different premises, its staff are often required to work in various locations for radio, television and new media production and technical operation. This causes unnecessary travelling and inconvenience and is not conducive to the optimal use of manpower and resources. To house various divisions under the same roof is indeed one of the key reasons for the construction of the New BH.

Options other than the Construction of the New BH

[Item 4(c) and (d) of the List]

20. There has been a suggestion to convert other government buildings to dispense with the construction of the New BH. This is however not a feasible option. The facilities to sustain the operation of RTHK are unique in both nature and functions, and need to be custom-made. Among these facilities include -

- (a) continuity studios, production studios and studios equipped with sound and vibration insulation functions;
- (b) professional media archive facilities and database;
- (c) spaces with long-spanned structure and with high storey heights;
- (d) extra high floor loading capacity;
- (e) electromagnetic interference (EMI) prevention designs; and
- (f) sophisticated broadcasting facilities and corresponding building services.

Existing government buildings are mostly general offices, which will not be able to meet the RTHK requirements even after conversion.

21. Back in 2010, we had considered the option of buying an old industrial building for the said purpose. The Government Property Agency

had identified a few industrial buildings for assessment, which showed that the industrial buildings were unsuitable for conversion because of the excessive number of beams and columns, low floor storey height, etc. After that, we had assessed the feasibility of converting a group of buildings in the Tai Po Industrial Estate. Nevertheless, due to constraints such as height and plot ratio, this group of buildings failed to provide sufficient spaces to accommodate the facilities required by RTHK. The option was eventually deemed unsuitable.

22. As regards the building of a joint-user government office building, we consider that this is not an appropriate option. On one hand, the design of the New BH has already reached 60 meters above Principal Datum [mPD] of the height restriction of the selected site. It would be difficult to provide extra spaces for other government departments. On the other hand, the operation requirements of RTHK are unique. For instance, it imposes stringent restrictions on renovation and maintenance works to facilitate round-the-clock broadcasting; it often organises programmes with a great number of participants; and large-sized facilities, props and sceneries are moved frequently. These operational practices will cause great inconveniences to other departments. As such, the option of a joint-user office building is not feasible.

Accommodation Requirements

[8, 15 and 16(a)-(c) of the List]

23. As the Government decided in 2009 that RTHK should implement new services, the site originally identified in TKO Area 86 could no longer meet the requirements of RTHK, and a new site in Area 85, Tseung Kwan O (TKO Area 85) has been identified. We have exercised due diligence in working out the space requirements of the New BH. Overall speaking, the New BH can accommodate the existing establishment of 941 RTHK staff, allocating to each staff member with an office area being determined by ranks and approved in accordance with the Government's internal mechanism. The table below shows some examples:

Rank	Standard Office Area (m ²)
Chief Programme Officer	8.8
Principal Programme Officer	8.1

Rank	Standard Office Area (m ²)
Senior Programme Officer	7.7
Programme Officer	5.8
Assistant Programme Officer	5.1
Programme Assistant	4.1

24. In addition, we have reserved some 200 m² for additional manpower in future. If each staff member occupies about 5 m², the New BH can only provide space for 40 more staff members.

25. If the funding application for the New BH is approved by the Finance Committee, the facilities currently accommodated in the containers can all be relocated to the New BH. However, if approval is not granted to the funding application, RTHK staff will have to continue to work and conduct sound broadcasting programmes in the make-shift containers. It is not appropriate to make use of containers, whose space is narrow and sub-standard, to serve as long-term accommodation for staff. The use of containers is also not suitable as a long term arrangement for radio broadcasting given that the sub-standard insulation and equipment of containers will adversely affect broadcasting quality.

26. The floor areas allocated for the News Centre, Engineering Division and media asset management (MAM), information technology (IT) and new media technical facilities in the New BH will increase by a larger extent as compared to their existing floor areas. Reasons are as follows -

- (a) the floor area allocated for the News Centre will increase from the current 240 m² to 1 910 m² (+696%). This is mainly due to the needs to provide a standard working space for each staff member and a reasonable area for placing supplies and equipment. (The existing space is about 60% lower than the standard.) Also, there will be new facilities such as radio news studios and television (TV) news studios, and other related ancillary facilities. There is no news studio in RTHK at present which is undesirable. News anchors are required to use the radio continuity studio downstairs when reporting news every time. Given the travelling time involved and the importance of timing in reporting breaking news, RTHK needs to set up two radio news

continuity studios in the News Centre of the New BH, each for Chinese and English news, so that the latest news can be timely reported. About 649 m² of the News Centre will be used for accommodating 93 staff members, 26 service providers and other related office facilities;

- (b) the floor area allocated for Engineering Division and MAM will increase from the current 290 m² to 1 730 m² (+497%). This is mainly due to the increase in broadcasting and MAM facilities in the New BH. Therefore, engineering related facilities will have to be correspondingly increased to meet the operational needs, including scenery runways, DTT maintenance workshop, office accommodation for engineering staff and outdoor broadcasting equipment stores; and
- (c) the floor area allocated for IT and new media facilities will increase from the current 190 m² to 1 130m² (+495%). This is mainly due to the needs to consolidate and upgrade the existing facilities (e.g. server rooms, electronic data transmission rooms and other ancillary facilities such as editing workstations) that are scattered in different locations and are non-compatible and sub-standard to meet the operational requirements of RTHK as well as the increase in new media production.

27. Having regard to the following factors, we consider that the area for the MAM cannot be reduced. RTHK's programme archives encompass not only finished works (e.g. television programmes) produced by the broadcaster itself, but also unedited audio-visual clips, as well as background and other relevant information. Most of the archived materials (e.g. archives on landmark historical events, and photographs, recordings and video films on important figures and performances) are of prime historical and cultural significance. Such material is Hong Kong's cultural heritage and forms a key part of our collective memory. We must therefore endeavour to protect these significant social assets and prevent any loss of them by ensuring proper preservation of RTHK's archived raw materials. While some raw materials have already been digitised, industry practice requires that the master copy should still be kept properly to guard against possible damage to the digital copy. RTHK has digitised some archived programme materials such as

certain 16 mm film tapes worthy of preservation, and has transferred the master copies to the Hong Kong Film Archive for preservation. That said, quite a large proportion of RTHK's media assets are yet to be digitised and therefore require a reasonable amount of storage space. Owing to the lack of a permanent area for MAM in RTHK's existing premises, the New BH project will include such an area, which has been designed in accordance with international standards (compliance with international standards stipulated in the British Standards Institution (BSI) Published Document (PD) 5454). The area will also reflect less storage space requirement for newly produced media assets in the course of RTHK's move towards increasingly digitised production because digitised assets will take up less storage space than assets previously produced on video tapes.

28. We are aware that data centres providing cloud technology service are available for hire. However, we have not yet found in the market any data centre capable of providing reliable large-scale broadcasting system service with cloud technology. We will monitor the technology and market development and update our broadcasting system and technical arrangements. As for the server and relevant storage space for keeping departmental internal application programmes and files (including confidential files), given that the current system design and operational arrangements are meant for internal facilities for departmental use only as well as security reasons, hiring cloud technology service from outside data centres and the application of cloud technology will involve corresponding changes in the system design and operational arrangement, thus increasing the complexity and risk of system removal plan as well as the required time and resources.

29. Hiring service from outside data centres with cloud technology could be considered for the storage of multimedia contents. Prices for such kind of storage service differ greatly, depending on the quality and level of service required. The cheaper options currently available in the market require about \$500 per 1TB per month. The proposed facilities for the New BH are estimated to be able to store about 34 000 TB of multimedia contents, including all the sound recordings and video footages produced by the Radio and Television Divisions. Such facilities will take up around 162 m² of space in the New BH. With this level of total data storage, economies of scale can be achieved to support the setting up of its own storage facilities, outsourcing is thus not required. If the contents are to be stored in outside data centres using

cloud technology, **even if it is calculated at \$500 per 1 TB per month, the yearly expenditure will be as high as \$200 million. This option is therefore not cost effective in the long run.** In fact, organisations which need to store large amount of multimedia contents will generally install their own servers rather than hiring the service of outside data centres. In addition to cost effectiveness, installing self-owned server is better than hiring service from a data centre in terms of management and security reasons.

30. Currently, RTHK has four television studios, three of them are of 200 m² each in size and one in 400 m². In terms of number and size, these studios can hardly meet the operational requirements of RTHK. Therefore, RTHK now often has to hire outside venues or go to outdoor public areas for location filming when producing television programmes, thus incurring additional expenses on manpower, equipment, venues, and transportation.

31. With the commissioning of the New BH, the total number of RTHK's television studios will increase just by one. Of the then five studios, two will measure 200 m² each in size, one in 400 m², one in 600 m² and one in 800 m² respectively to meet the production requirements of RTHK. This will enable RTHK with enhanced flexibility in producing more studio-filmed programmes, including various forms of forums, cultural and educational programmes with community involvement, as well as election forums for councils at different levels during election years. In terms of production, it is easier to control and produce programmes of better qualities in studios than those of field productions.

Broadcasting Equipment and Facilities

[Item 4(a) and (e), 11, 12 and 17 of the List]

32. The New BH has to be equipped with advanced broadcasting and production facilities. "Advanced facilities" means facilities that comply with the technical requirements under both local and international standards, such as the technical standards or specifications laid down by the Communications Authority and British Broadcasting Corporation (BBC). The facilities on RTHK's proposed list of procurement are comparable to those used by other industry players for meeting their daily operational needs. When procuring the facilities, RTHK only sets out technical requirements in its tender documents or invitations for quotations. As no brands, models or suppliers

will be specified in the documents, **there is no question of procuring luxurious facilities.**

33. The estimated expenditure for furniture and facilities has increased to around \$930 million (in September 2013 prices) from the estimated \$550 million in the preliminary project feasibility study conducted in 2000. This is mainly due to the procurement of broadcasting facilities for the implementation of RTHK's digital terrestrial television (DTT) broadcasting services, digital audio broadcasting (DAB) and other new services, as well as replacement of worn-out facilities.

34. Of the estimated expenditure for broadcasting facilities, around 40% is for the procurement of new facilities while about 60% is for the replacement of existing facilities. RTHK will also re-locate those broadcasting facilities that are still functional to the New BH as far as practicable. RTHK will hire a professional company for the removal of the broadcasting facilities to avoid damage in the course of transportation as far as possible. In case any damage is made to the facilities during removal, an allocation will be drawn from the estimated expenditure for furniture and facilities for re-procurement purposes and no additional provision will be required.

35. We must point out that quite a number of RTHK's existing broadcasting facilities (e.g. some facilities in the radio production studios and television studios; and certain equipment for producing radio and television programmes) are rather obsolete. **The service life of most of these facilities will have expired by the time the New BH is commissioned for use in 2018 and will not be suitable to be moved to the New BH for further use.** In fact, the service life of some of the existing facilities has already expired. Only out of the consideration that a New BH will be commissioned for use in 5 years' time that RTHK resorts to all possible means of repair and maintenance to prolong their service life as far as practicable.

36. As for the method of building the new broadcasting facilities, we only list out the relevant design standards in the tender documents. Taking into account the vibration and noise generated by the work possibly to be carried out at the sites close to the New BH, trains going in and out of the LOHAS Park MTR Station and the heavy vehicles passing through the nearby Wan Po Road, such facilities in the New BH will be built with the "box-in-box"

technology for vibration-absorbing and acoustic purposes. The broadcasting company close to the site of the New BH has also adopted such a technology in building their television studios. The specification of the “box-in-box” technology has been drawn up by the acoustic and vibration design consultant on the basis of international acceptable standards, including the BBC Engineering Guide to Acoustic Practice and ITU’s Methods for the Subjective Assessment of Small Impairments in Audio System, and are in line with those adopted by the industry players all over the world.

37. For the use of pre-fabrication, given the different sizes of television and radio studios, different lighting and acoustic requirements, as well as the vibration absorbing requirement, it is considered that the use of pre-fabricated radio and television studios will make it more difficult to control their quality and meet the stipulated requirements, and the associated cost may also not be lower.

Programme Production and Future Developments

[9, 11, 13,14 and 15 of the List]

38. As the only PSB in Hong Kong, RTHK will continue to provide the public with editorially independent, professional and high-quality radio, television and new media services, fully discharging its role as the public service broadcaster in the territory after the commissioning of the New BH. According to the RTHK Charter, the mission of RTHK is to —

- (a) inform, educate and entertain members of the public through multi-media programming;
- (b) provide timely, impartial coverage of local, national and global events and issues;
- (c) deliver programming which contributes to the openness and cultural diversity of Hong Kong;
- (d) provide a platform for the Government and the community to discuss public policies and express views thereon without fear or favour; and

- (e) serve a broad spectrum of audiences and cater to the needs of minority interest groups.

39. While there were media reports that some RTHK staff had been under internal political pressure which might affect RTHK's capability in fulfilling the mission as a PSB and its editorial independence, the Administration has not received any formal complaints lodged by RTHK staff nor views from staff questioning RTHK's capability in fulfilling its mission as the PSB. The Government has all along attached great importance to safeguarding the editorial independence of RTHK. Where a civil servant feels that he / she has been directed to act in a way that he / she considers is in conflict with the political neutrality of the civil service, he / she may lodge a complaint in accordance with the established procedures. A civil servant will not be penalized for lodging a complaint which is made in good faith.

40. As regards the development plan of RTHK on DAB, Community Involvement Broadcasting Service (CIBS), DTT service and TV news, details are set out in the ensuing paragraphs -

(a) DAB

41. RTHK formally launched its DAB service in September 2012 and provided five programme channels. Four of the DAB channels simulcast the existing four AM channels (namely, Radio 3, Radio 5, Putonghua Channel and BBC World Service) to improve sound quality. The remaining DAB programme channel relays the China National Radio Hong Kong edition programmes to enhance public understanding of matters concerning the Mainland.

42. New DAB programmes have been launched by RTHK in phases since February 2013. RTHK will continue to promote the development of DAB and conduct regular reviews with a view to providing quality programmes for the public. After the commissioning of the New BH, there will be adequate facilities to further enhance DAB services. At present, RTHK can only make use of the two continuity studios converted from the existing production studios and the continuity studios converted from the containers to provide DAB services. However, these facilities, being makeshift arrangements only, are sub-standard and insufficient. RTHK needs to establish sufficient number

of studios meeting the required specifications in the New BH to implement the DAB services.

(b) CIBS

43. The 1st Quarter service of the Pilot Project for the CIBS was launched between July and October 2013, and the 2nd Quarter service has also been launched in October 2013 up to January 2014. Since the launch of CIBS, RTHK has received 123 applications in total and 57 of them have been approved. The types of approved programmes include radio drama, interview, dialogue, music programme, phone-in programme, etc., and they cover themes such as education, arts and culture, politics and current affairs, ethnic minorities and social affairs. CIBS has proved to be effective in facilitating community groups and local organisations in the promotion of arts and culture.

(c) DTT

44. On 22 September 2009, the CE in C decided that RTHK would be tasked to take up the mission as the PSB in Hong Kong and should expand its scope of its services including the provision of DTT service. From October 2009 to January 2010, the Government conducted a comprehensive public engagement exercise on the expanded scope of services of RTHK. The findings of an opinion survey conducted revealed that **around two-thirds of the respondents agreed that RTHK should introduce its own digital TV channels**. Meanwhile, more than three quarters of the respondents held the view that the Government should provide new resources for RTHK to expand its scope of services. After confirming public support, the expanded scope of services was incorporated into the RTHK Charter jointly signed by the Chief Secretary for Administration, the then Chairman of the Broadcasting Authority and the Director of Broadcasting in August 2010.

45. The official “soft” launch of the DTT channels of RTHK is now scheduled for 12 January 2014. At the beginning of the “soft” launch, RTHK TV 31 (main channel) will broadcast 8.5 hours daily (from 5 pm to 1:30 am) every Monday to Friday, and 13.5 hours daily (from 12 noon to 1:30 am) every Saturday and Sunday. RTHK TV 31 is an integrated channel offering programmes on current affairs, education, information, culture and arts and dramas. Among them are new programmes specially produced for DTT

channels, acquired programmes, a selection of RTHK's productions, classic archive programmes, educational television programmes, weather reports and programmes simulcast in prime time slots on the two free-to-air television stations. The commissioning programmes and relayed local arts and cultural programmes, etc. will help promote local production and nurture talents in arts and cultural as well as local organisations. RTHK also welcomes proposals on collaboration from local organisations (such as the 18 districts). In fact, RTHK has been organising a wide range of activities jointly with the local districts and organisations.

46. RTHK TV 32 will live broadcast Legislative Council meetings every Wednesday as well as other important press conference and news of public interest. RTHK TV 33 will relay the CCTV9 Documentary Channel.

47. RTHK's DTT services are dedicated to stimulating creativity, nurturing local talents and encouraging excellence to enrich the multi-cultural life of the people in Hong Kong. RTHK will continue to increase the number of outsourced or commissioned documentaries, dramas, animations, and arts and cultural programmes produced by local teams of creative talents. Commissioned television programmes in the pipeline for 2014 include "The New *Below the Lion Rock*" ("新獅子山下"), "*The Series of Chinese Writers*" ("華人作家系列) and "*We Grow up by Singing these Songs*" ("我們都是這樣唱大的"). For enhancing interaction between television programmes and the community, RTHK will consider further plans upon completion of the review of the Pilot CIBS, with reference to the relevant experience gained from the project.

48. As the PSB of Hong Kong, the mission of RTHK is to serve a broad spectrum of audiences and cater for the needs of minority interest groups. In relation to public TV services, one of the objectives of RTHK is **to provide TV services in areas not adequately provided by commercial TV broadcasters**. Since **RTHK would not compete for advertising revenue**, market share would not be an objective of its operation. With the launch of DTT services by RTHK, the public will have more choices in addition to the services delivered by the existing commercial free TV broadcasters. We consider that the coexistence of RTHK's public TV service and commercial TV service would create a balanced broadcasting ecology that contributes to plurality. A

global study² reported by BBC recently also confirms that public service broadcasting has positive effect on commercial broadcasting.

49. As to whether RTHK will extend the broadcasting hours of its DTT channels in the future, RTHK will survey the public's feedback on its services one year after the trial run of the channels, and will apply for additional resources under the prevailing mechanism when necessary.

50. A member suggested that the Government should request the domestic free television licensees to provide one channel each for use by RTHK. We do not consider this feasible because the licensees have their own channel programme arrangement and the suggestion would seriously affect their business operation. In addition, the nature of public service broadcasting and commercial broadcasting are substantially different and should not be mixed up.

(d) TV News

51. At present, commercial TV broadcasters are already providing free and paid television news programmes in Hong Kong. As such, some members doubted whether it was necessary for RTHK to provide television news. In this regard, RTHK's plan is to produce two hours of TV news each day upon commissioning of the New BH. The news programmes will be broadcast in the morning, noon and evening (four time slots) with an actual broadcasting time of 3 hours and 15 minutes. RTHK needs at least three TV news studios for the provision of Chinese news, English news and news magazines programme. We must point out that: —

(a) **public service broadcasters all over the world will provide television news programmes for the public.** As the PSB of Hong Kong, RTHK should provide television news service to align with the world;

(b) RTHK commissioned a consultant to conduct an opinion survey on RTHK's new television channels in 2012 and successfully interviewed 1 039 respondents through random sampling. It

² For details of the study, please refer to:
<http://www.bbc.co.uk/mediacentre/latestnews/2013/psb-report.html>.

was found that **the majority of the respondents (91.5%) hoped that RTHK's new television channels would provide news programmes; and**

- (c) the Public Opinion Programme of the University of Hong Kong published the findings of their survey on the rating of the news media in Hong Kong in November 2013. The findings revealed that 77% of the respondents regarded television as their major source of news information.

52. Over the years, RTHK has successfully established its credible brand name and become a media which is well-trusted and highly commended by the society. Since 1997, the Chinese University of Hong Kong has conducted several surveys on Public Evaluation on Media Credibility and **RTHK has all along been rated as the most credible electronic media.** We consider that **RTHK is obliged to and capable of providing the public with accurate and impartial TV news.**

Annual Recurrent Expenditure after Commissioning of New BH

[Item 10 of the List]

53. RTHK's total expenditure is estimated to be \$754.3 million in 2013-14. In this financial year, an additional provision of \$84.5 million has been allocated for RTHK to implement DTT services (including the creation of additional 85 civil service posts and seven contract positions) and creation of 20 civil service posts for replacing non-civil service contract positions with long-term service needs. Regarding RTHK's recurrent expenditure after the commissioning of the New BH, we could not provide the relevant figures at this stage as it depends on the operational needs and the implementation of various new services in the coming years. We estimate that the annual recurrent expenditure arising from the New BH project to be \$78.8 million.

Expenditure other than the Construction of the New BH

54. In addition to the construction of New BH, RTHK plans to establish 22 DTT fill-in stations to extend the network coverage of RTHK's DTT services from 75% to around 99% of Hong Kong's population. 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. Hence, irrespective of the construction of the New BH, RTHK still needs to establish these DTT fill-in stations to implement the DTT services. The capital cost of the project will be \$64.2 million. We will seek the support of Panel on the Information Technology and Broadcasting and seek the funding approval of the Finance Committee in due course. 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.

55. In addition, a supernumerary post of Administrative Officer Staff Grade B in RTHK, designated as Deputy Director of Broadcasting (Developments) will lapse on 27 May 2014. We propose to extend the post for five years until 26 May 2019. The coming five years are critical for the development of RTHK as all the major new services and projects (such as the construction of the New BH, the further development of DAB services, the launch of DTT services, establishing a MAM system, etc) will be rolled out or completed. RTHK needs to maintain strong governance at senior directorate level of RTHK to ensure effective planning and implementation of new projects and services. The proposed extension of the supernumerary directorate post will require an additional notional annual salary cost at mid-point of \$2,019,000. The additional full annual average staff cost, including salaries and staff on-cost, is \$2,925,000.

Arrangements for the Existing Premises after Relocation

56. Upon completion of the New BH, the existing premises (save for the town office in Queensway Government Offices) occupied will be released for other purposes

57. On public media education and cultural conservation, the New BH will have a Visitors' Path starting at the Broadcasting History Display Room to introduce the broadcasting landscape in Hong Kong and the history of RTHK to the public. Apart from displaying invaluable broadcasting artifacts and antique equipment with high conservation value, the Visitors' Path will also provide interactive and multi-media facilities to enhance the public awareness of the broadcasting landscape in Hong Kong and RTHK's history. The general public may visit RTHK's continuity studios and TV studios along the

Visitors' Path, and also experience video and audio productions with simulation facilities.

**Commerce and Economic Development Bureau
December 2013**

Appendix 1
(Revised Enclosure 14 to PWSC(2013-14)28)

69KA – New Broadcasting House of Radio Television Hong Kong

Changes in Project Cost Estimate between 2000 and 2013

A comparison of the first Preliminary Project Feasibility Study estimate carried out in 2000 (2000 PPFS) and the latest cost estimate (updated in 2013 as per the PWSC submission) is as follows –

	(A)	(B)	(B) – (A)
	2000 PPFS (July 2000)	Latest cost estimate	Difference
	(adjusted to September 2013 prices) <small>See Notes</small>	(in September 2013 prices)	
\$ million			
(a) Site works	4.5	28.7	24.2
(b) Piling works	58.9	246.4	187.5
(c) Building works	940.3	2,302.1	1,361.8
(d) Building services works	433.7	795.7	362.0
(e) Drainage works		28.1)	
(f) External works	41.7	44.1) 72.2	30.5
(g) Footbridge	15.7	-	(15.7)
(h) Energy conservation, green and recycled features	-	81.2	81.2
(i) Furniture and equipment	550.9	929.6	378.7
(j) Consultants' fees	60.2	31.2	(29.0)
(k) Remuneration of resident site staff	-	64.0	64.0
(l) Contingencies	239.3	455.1	215.8
Sub-total	2,345.2	5,006.2	2,661.0
(m) Provision for price adjustment	-	1,049.4	
\$ million (in money-of-the-day prices)			
Total	-	6,055.6	

2. As regards (a), (b), (e) and (f) (**site works, piling works, drainage works and external works**), the total increase of \$242.2 million is due to –

- i) larger site area with an increase of 77% from 17 303 m² (TKO Area 86 site) to 30 600 m² (TKO Area 85 site). In order to meet the requirement of the ground floor layout design, (e.g. provision of radio and television studios at ground floor to facilitate public access, provision of outdoor broadcasting equipment stores and props stores at ground floor to meet operational needs and to minimise the structural costs of the upper floors, etc), the building footprint of the New BH has therefore increased by 86% and the number of piles has increased accordingly;
- ii) piling system is changed from H-piles to large-diameter bored piles in order to reduce the noises and vibration generated by the piling works, and reduce the nuisance to the neighbouring residents and the data centre building nearby;
- iii) with higher load-bearing capacity of each pile and its operational efficiency, the use of large-diameter bored piles system will enable effective control of the construction programme;
- iv) being a non-percussive piling system, the use of large-diameter bored piles does not require the application of the Construction Noise Permit from the Environmental Protection Department. In this connection, the works of large-diameter bored piles can be carried out during normal working hours, thus enabling the necessary machinery and workers be deployed flexibly;
- v) the demand for qualified and experienced workers is huge in the construction industry nowadays.. Comparing with the percussive piling, large-diameter bored piles, which largely involve operation of machinery, will require fewer qualified and experienced workers, such as qualified welders;
- vi) to handle the possible leakage of landfill gas during the execution of the piling works, additional measures, such as installations of the underground cut-off trench barriers and gas monitoring wells, have to be carried out as appropriate.
- vii) with the carrying out of a large number of infrastructure works over the past few years , the cost of piling works has increased accordingly. However, owing to the difference in the nature of works involved, the rise in the cost of piling works cannot be directly compared with the corresponding increase in the Building Works Tender Price Index over these years.

3. As regards (c) and (d) (**building works and building services works**), the total increase of \$1,723.8 million is due to the following factors –

- i) the PPFS scheme prepared in 2000 was at very preliminary technical feasibility stage with no detailed requirements available. The current design (as reflected in the latest cost estimate) has taken into account the latest broadcasting technology and has catered for the latest operational requirements of the users, such as detailed acoustic and functional requirements of each recording studio, more sophisticated and advanced building services, IT, fibre optic network requirements etc. which have been widely adopted in recent major overseas broadcasting house developments and international broadcasting standards;
- ii) the building design (as reflected in the latest cost estimate) is substantially different from PPFS stage. In the current building design, each of TV block and Radio block will be equipped with separate fire services, electricity supply and telecommunication systems with enhanced reliability to ensure continuity of broadcasting services in case of emergency;

- iii) incorporation of the latest requirements / prevailing practices such as security requirements, curtain wall system with lower solar heat transmission, water saving devices and more environmentally friendly materials;
 - iv) the New BH adopts green design concept. The architectural and building services designs have taken into account the green elements and comply with the latest Buildings Energy Efficiency Ordinance (2012);
 - v) the cost of contractor's design and site supervision are included in the current design-and-build procurement mode;
 - vi) the estimated construction floor area (CFA) of the PPFS scheme prepared in 2000 was 60 000 m², and the CFA of the current design (as reflected in the latest cost estimate) is 84 436 m². The increase in CFA is due to various reasons, including different layout configuration to suit the different site configuration and new functional requirements (e.g. requirement of independent operation of separate parts of the buildings, more circulation space, etc.). Besides, increased floor areas are required for incorporation of the latest requirements of barrier-free access, new fire codes, occupational safety and health, sustainability building design and gender mainstreaming considerations, as an integral part of the design; and
 - vii) various policy initiatives on construction safety, workers' welfare and green construction, such as enhancement on site safety, mandatory provident fund, site uniform, waste management, better noise control in construction activities, etc. have been incorporated.
4. As regards (g) (**Footbridge**), the reduction of \$15.7 million is due to the deletion of the requirement for footbridge in the latest design requirement subsequent to the change of the site from Area 86 to Area 85.
5. As regards (h) (**Energy conservation, green and recycled features**), the total increase of \$81.2 million is due to project environmental design features which were only introduced in recent years based on the latest government's green building policies. There was no such allowance in the 2000 PPFS scheme.
6. As regards (i) (**Furniture and equipment**), the total increase of \$378.7 million is due to inclusion of specialist equipment for implementation of new services such as Digital Terrestrial Television, Digital Audio Broadcasting, etc., as well as for replacement of aged equipment etc. which were previously not envisaged.
7. As regards (j) (**Consultants' fees**), the total reduction of \$29.0 million is due to the change from in-house with specialist consultants to design-and-build procurement method. Paragraph 3 (v) above refers.
8. As regards (k) (**Remuneration of resident site staff**), the total increase of \$64.0 million is due to the change from in-house to out-sourced resident site staff.
9. As regards (l) (**Contingencies**), the total increase of \$215.8 million is for all the additional works listed above.
10. As regards (m) (**Provision for price adjustment**), this is not included in the cost estimate prepared in 2000 (at constant prices) at feasibility study stage. It is the established practice that cost estimates of capital works projects are updated to money-of-the-day prices in funding applications to the Public Works Subcommittee and Finance Committee.

Notes

- (a) The cost estimate of \$1,496 million provided in the PPFS in 2000 was based on the Building Works Tender Price Index (BWTPI) of 989 at 4Q 1999. In the LegCo Paper in 2009, the ballpark cost for a new BH was based on the estimate given in the 2000 PPFS with the cost adjusted to 3Q 2009 price level (BWTPI at 1 111) at that time.

- (b) A PPFS for the new BH project was carried out in 2000 for a site earmarked in Area 86, Tseung Kwan O. The project was then put in abeyance because of firstly the Government's stringent financial position during the SARS period and then the conduct of the review of the public service broadcasting. On its re-activation after 2009, a fresh Technical Feasibility Statement (TFS) was prepared in 2011 based on a new set of project design requirements for the current site in TKO Area 85. The cost estimate prepared in 2011 with a BWTPI of 1 249 (3Q 2010) was \$4,412 million. With the price adjusted to September 2013 price level, the estimated cost of the project based on the TFS prepared in 2011 is \$5,475 million. The current cost estimate of \$5,006.2 million in September 2013 prices is about 8% lower than the TFS estimate.

(I) Construction cost of private office buildings

Consulting Firms	Construction cost of private sector	Type of office	Construction Unit Cost per m ² of Construction Floor Area (CFA) ¹ (Second quarter 2013 price level)
Langdon & Seah	Quarterly Construction Cost Review, Hong Kong, Second Quarter 2013	Average Standard Office, High Rise	\$22,000 - \$26,000
		Prestige Office, High Rise	\$28,000 up
Rider Levett Bucknall	Quarterly Construction Cost Update, September 2013	Office, High Quality	\$18,400 - \$25,100

(II) Comparison of the construction cost with the West Kowloon Law Courts Building and a typical private office building

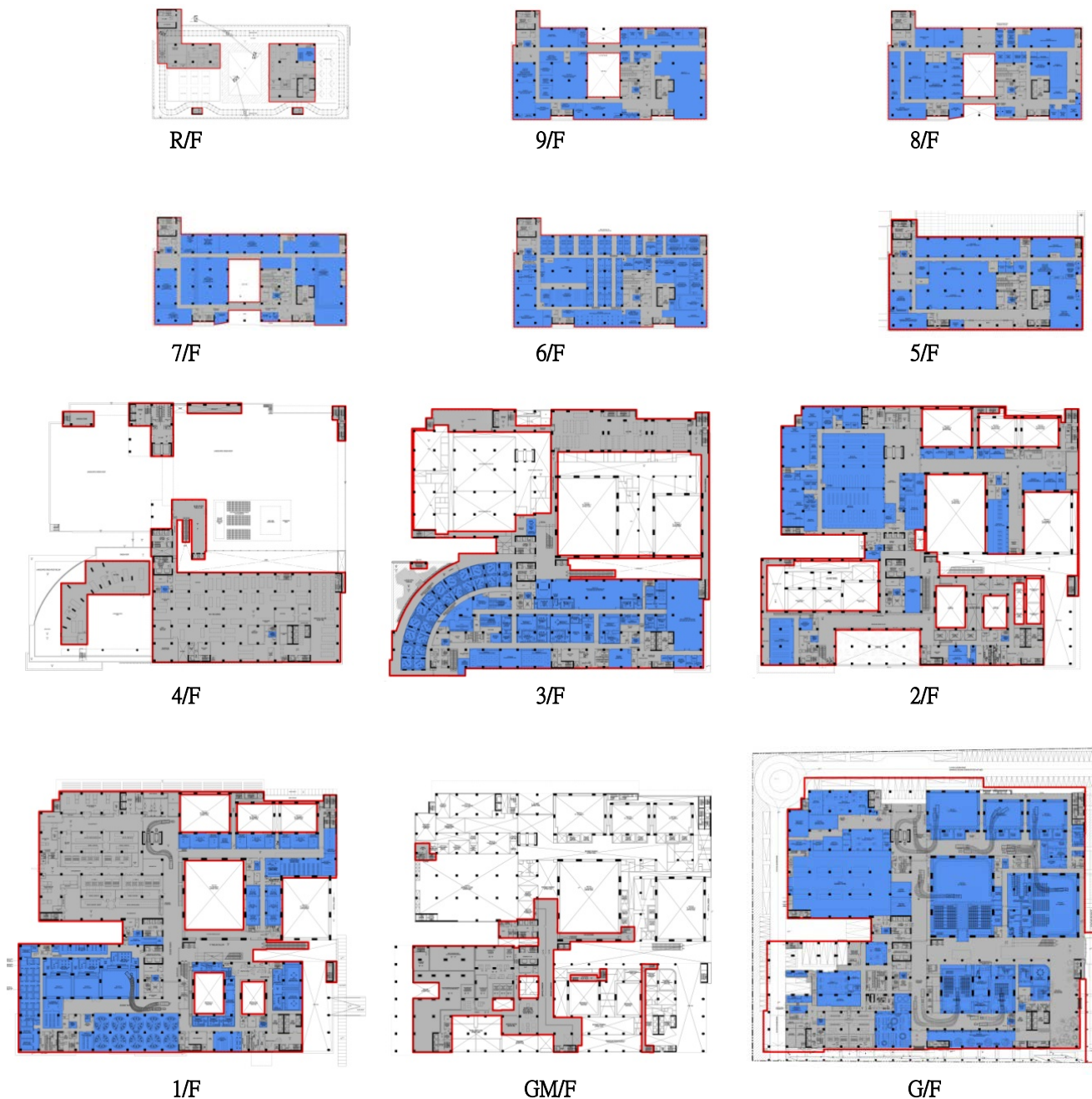
Item	Latest cost estimate (\$ million)	Construction Unit Cost per m ² of Construction Floor Area (CFA)
1. Capital cost of the project (in MOD prices)	6,055.6	
2. Capital cost of the project after deduction of the provision of price adjustment (in September 2013 prices)	5,006.2	
3. <u>Less: Cost not included in the calculation of Construction Unit Cost</u>		
• Total site development cost (including site works, piling work, drainage works and external works – Para. 14(a), (b), (e) and (f) of PWSC(2013-14)28 (Paper)	- 347.3	
• Energy conservation, green and recycled features – Para. 14 (g) of the Paper	- 81.2	
• Furniture and Equipment – Para. 14(h) of the Paper	- 929.6	
• Consultants' fees – Para. 14 (i) of the Paper	- 31.2	
• Remuneration of resident site staff – Para. 14 (j) of the Paper	- 64.0	
• Contingencies – Para. 14 (k) of the Paper	- 455.1	
Construction Cost - Para. 14 (c) and (d)	3,097.8	36,688

¹ Construction cost excludes furniture and equipment, site formation, external works, consultants' fees and reimbursables, land value and provision for price adjustment.

Item	Latest cost estimate (\$ million)	Construction Unit Cost per m ² of CFA
Comparison with the West Kowloon Law Courts Building		
<p>4. <u>Less: Broadcasting-related specialist facilities</u></p> <ul style="list-style-type: none"> Special requirements for studios including higher floor loading, long-span, column-less structures, extra high storey heights, proprietary products for sound broadcasting and TV production (e.g. lighting platforms and spectator stands for the audience), stringent acoustic and vibration isolation requirements (box-in-box design), as well as enhanced reliability of building services. 		- 6,000
Adjusted Construction Unit Cost		30,688
Construction Unit Cost of the West Kowloon Law Courts Building (PWP No. 31LJ)		30,672 (in September 2013 prices)
Comparison with Private Office Building		
<p>5. <u>Less: Difference between government buildings and private office building</u></p> <ul style="list-style-type: none"> Interior fitting-out: Generally, only basic internal finishes with emulsion paint to internal walls are provided in the lettable floor area of private office building. For building services, only emergency lighting, main switch boards and basic mechanical ventilation system are provided. As the construction unit cost of the New BH Project includes the interior fitting-out cost for the whole building, \$5,390 per m² should be deducted. Number of floors: Private office buildings are generally 20-30 storey high with typical floor layout plans. Given that the New BH is a 10-storey low rise building with storey height varying from 3.5 metre to 22 metre, the complexity increases while repetitive works reduced. Hence, \$400 per m² should be deducted. Design fee: The design fee is normally not included in the construction unit cost of private office building. Given that the New BH Project adopts the design-and-build approach, design fee of about \$1,800 per m² is included in the construction unit cost. Measures related to site management and workers' welfare: The Government has actively introduced measures to improve site management and workers' welfare in recent years including policy initiatives on construction site safety, workers' safety and green construction, such as enhancement on site safety, mandatory provident fund, site workers' uniform, construction wastes management, better noise control in construction works, etc. The cost is about \$850 per m². 		- 8,440
<p>6. <u>Add: Difference between government projects and private office building</u></p> <ul style="list-style-type: none"> Cost of piling works and the associated risk allowance, 15% 		3,400
Construction Unit Cost comparable with private office building		25,648 (in September 2013 prices) 25,350 (in Second Quarter of 2013 prices)

Distribution of Net Operational Floor Area (NOFA)¹ in the New Broadcasting House

(NOFA: ■ Construction Floor Area (CFA):)



¹ NOFA is the floor area actually allocated to the users of a building for carrying out the intended activities. Unlike the construction floor area which takes into account all areas within the building structure envelope, NOFA does not include areas for lift lobbies, stair halls, corridors, stairwells, escalators and lift shafts, pipe/services ducts, toilets, bathrooms and showers, barrier-free access and gender mainstreaming facilities, refuse chutes and refuse rooms, verandas, open decks and flat roofs, car parking spaces, loading/unloading areas, mechanical plant rooms, etc.