

For discussion  
on 5 April 2013

**Legislative Council Panel on Security**  
**Replacement of Three Existing and Procurement of One Additional**  
**Turntable Ladders for the Fire Services Department**

**Purpose**

This paper consults the Panel on the proposals to:

- (a) procure three 55-metre Turntable Ladders (TLs) for replacing three of the existing 52-metre TLs (fleet numbers are F15, F282 and F283) in the Fire Services Department (FSD); and
- (b) procure one additional 55-metre TL.

**Background**

The existing TL fleet

2. At present, FSD has 24 TLs including 15 37-metre<sup>1</sup>, six 52-metre and three 55-metre TLs. Their main functions are to carry out fire-fighting and rescue operations at high level and they can be used as surveillance towers. Their detailed information is at Annex.

The three TLs proposed to be replaced

3. The three 52-metre TLs proposed to be replaced were commissioned in 2000. Currently, TLs F15, F282 and F283 are deployed at Kwun Tong Fire Station, Tuen Mun Fire Station and Mong Kok Fire Station respectively for frontline operation. The normal serviceable life of this kind of vehicle is about 12 years. The three vehicles mentioned above have been in service

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<sup>1</sup> The vehicle body of the 37-metre TL is relatively narrow and can access old districts with narrow streets.

for longer than the normal serviceable life and their performance has also been deteriorating. Considering that it takes about three years<sup>2</sup> to complete the work on tendering, construction, delivery and arranging for commencement of their service etc, it is necessary to commence the replacement work at this stage.

#### The one additional TL proposed to be procured

4. To maintain the fire-fighting and rescue capabilities at high level for various operational divisions and to tie in with the risk assessment for the concerned areas, FSD would deploy an appropriate number of TLs to different operational divisions. After considering the number of fire calls and risk assessment of the Kowloon South Division<sup>3</sup>, FSD considers it necessary to procure one additional TL for that Division and suggests deploying it at the Tsim Tung Fire Station for frontline operation.

#### **Justifications for the Proposed Replacement and Procurement of TLs**

5. FSD proposes to replace three existing and procure one additional TLs on the following grounds:

(a) Replacement of three TLs

(i) Expiry of normal serviceable life

FSD advises that the normal serviceable life of a TL is about 12 years. If a TL continues to be used for a long period of time after the end of its normal serviceable life, the deteriorating functions may affect frontline fire-fighting and rescue operations. The three 52-metre TLs proposed to be replaced have been in service since 2000, i.e. more than 12 years. Considering that it takes about three years to

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<sup>2</sup> According to the inspection and assessment of FSD Workshop on the three TLs mentioned above, the vehicles could remain in service until the commissioning of the new vehicles.

<sup>3</sup> Kowloon South Division covers the Tsim Sha Tsui, Yau Ma Tei and Hung Hom areas. It has four fire stations, including Tsim Sha Tsui Fire Station, Tsim Tung Fire Station, Yau Ma Tei Fire Station and Hung Hom Fire Station. Among these four fire stations, only Tsim Sha Tsui Fire Station, located on Canton Road (near Austin Road), has a 55-metre TL. The other three fire stations do not have TL.

complete the work on tendering, construction and delivery and arranging for their commencement of service, etc, it is necessary for FSD to commence the replacement work at this stage so as to ensure its operational readiness. FSD will ensure the effective functioning of the three existing TLs concerned until the commissioning of the new vehicles.

(ii) Extensive and costly repair

The major parts such as engine, gearbox and electrical controlling device of the three existing TLs are ageing. To keep them in good operating conditions, it is necessary to carry out repairs more frequently, thus increasing the maintenance cost and making it not cost effective. The average annual maintenance cost of the three TLs proposed to be replaced was about \$160,000 each in 2012, which is substantially higher than the average maintenance cost of \$50,000 per TL in the fleet.

(b) Proposed procurement of one additional TL

(i) Substantial increase in fire calls in the Kowloon South Division

In the past five years, the number of fire calls in the Kowloon South Division increased by 16.7% from 3 299 calls in 2008 to 3 849 calls in 2012, which is higher than the respective growth rate of the Kowloon Command and the territory of 7.5% and 6% in the same period. It is evident that there is a substantial increase in the demand for fire-fighting and rescue services in the Kowloon South Division. As the area continues to be further developed, FSD anticipates that the demand for such services would continue to increase. Therefore, it is necessary to enhance the building fire-fighting and rescue capabilities for the Kowloon South Division.

(ii) Increasing number of high-rise buildings and premises with special risk

In the past five years, more than 50 high-rise buildings, including hotels, residential buildings and large-scale shopping centres have been built in the Kowloon South area (including Tsim Sha Tsui, Yau Ma Tei and Hung Hom). The completion of a number of major developments such as West Kowloon Cultural District and Guangzhou-Shenzhen-Hong Kong Express Rail Link terminus, etc are also expected in the near future. These developments will increase the fire risk of the Division. Therefore, FSD considers it necessary to procure one additional TL for the Kowloon South Division so as to enhance its fire-fighting and rescue capabilities at high level.

Considering that most of the premises with special risk (e.g. hotels and large-scale performance venues) in the Kowloon South area are in Tsim Sha Tsui and Tsim Sha Tsui East, and other factors such as the locations of TLs in other operational divisions of Kowloon, the availability of parking spaces of individual fire stations<sup>4</sup> as well as the traffic conditions of the urban area, FSD is of the view that deploying the additional TL to Tsim Tung Fire Station could best meet the operational need of the Division and achieve operational efficiency.

### **The New TLs Proposed to be Procured**

6. In view of the justifications mentioned in paragraph 5 above, FSD intends to procure a total of four 55-metre TLs for replacing three existing TLs and providing one additional TL for Tsim Tung Fire Station of the Kowloon South Division.

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<sup>4</sup> Both Yau Ma Tei Fire Station and Hung Hom Fire Station do not have extra parking space for accommodating the new vehicles.

7. The 55-metre TLs proposed to be procured will have better fire-fighting and rescue capabilities than the existing 52-metre TLs. Details are as follows:

- (a) The maximum rescue height is 55 metres, enabling the TLs to reach a higher place for rescue operation;
- (b) A CCTV system will be installed at the rescue cage. This can facilitate the ladder operator to position the rescue cage more accurately and safely for operation; and
- (c) A portable electricity generator will be provided to provide electricity for operation of ladder in case of engine breakdown.

8. For better use of resources, upon commissioning of the new TLs, FSD will assess the conditions of the three old TLs and consider redeploying them for training or as operational reserve vehicles.

### **Financial Implications**

9. The total non-recurrent cost of procuring four new 55-metre TLs is estimated to be \$53.334 million. A detailed breakdown is as follows:

<b>Item</b>	<b>Unit cost (\$'000)</b>	<b>Total cost (\$'000)</b>
(a) Four basic vehicles	10,905	43,620
(b) Fitting-out, accessories, factory acceptance test and operation training, etc.	1,091	4,364

Item	Unit cost (\$'000)	Total cost (\$'000)
(c) fire-fighting equipment (e.g. fire-fighting hose and rescue rope, etc) and communication equipment required on board (only apply to the additional TL for Tsim Tung Fire Station)	500 <sup>5</sup>	500
(d) Contingency		
- Replacement of old vehicle	1,200	3,600
- Procurement of new vehicle	1,250 <sup>6</sup>	1,250
<b>Total:</b>	<b>13,196</b> (Replacement of old vehicle) <b>13,746</b> (Procurement of new vehicle)	<b>53,334</b>

The costs required in 2013-14 and 2015-16 are estimated to be \$4.124 million and \$49.21 million respectively.

10. FSD estimates that the annual recurrent cost (including maintenance and fuel cost) of each new vehicle will be roughly the same as the current average of \$70,000 per TL (including maintenance cost of \$50,000 and fuel cost of \$20,000) in the fleet currently.

11. The proposal for replacement of three existing TLs will not incur additional recurrent cost because FSD will deploy existing manpower to operate the new TLs and will not require additional manpower. As regards the proposal for procuring an additional TL for Tsim Tung Fire Station, FSD

<sup>5</sup> As the fire-fighting equipment and communication system on the three old TLs will be transferred to the new TLs for use upon their commissioning, these three TLs do not require such new equipment. For the additional TL for Tsim Tung Fire Station, procurement of relevant equipment and system is required.

<sup>6</sup> The contingency for each of the three replacement TLs is 10% of items 9(a) and (b), i.e. \$1.2 million, and that for the additional TL for Tsim Tung Fire Station is 10 % of items 9(a) to (c), i.e. \$1.25 million.

requires 14 posts<sup>7</sup> of fire service personnel to operate the new TL and the estimated annual expenditure is about \$4.48 million.

### **Implementation Timetable**

12. Subject to Members' views on the proposals, we plan to seek funding approval from the Finance Committee of the Legislative Council in May 2013 for procuring the four 55-metre TLs. If funding approval is granted, we expect that the implementation timetable would be as follows:

	<b>Item</b>	<b>Target Completion Date</b>
(a)	Invitation of tender <sup>8</sup>	June 2013
(b)	Evaluation of tender and award of contract	September 2013
(c)	Construction, modification and delivery of sample vehicle	March 2015
(d)	Testing and acceptance, training, minor modification and trial use of sample vehicle	June 2015
(e)	Construction, modification and delivery of remaining vehicles	December 2015
(f)	Testing and acceptance, training, minor modification and trial use of remaining vehicles	March 2016
(g)	Commissioning of the vehicles	March 2016

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<sup>7</sup> Each TL requires four fire service personnel to operate. FSD requires additional 14 relevant posts in accordance with the duty shift arrangement.

<sup>8</sup> As the specifications of the proposed TLs are broadly the same as that of the current 55-metre TL, the preparation of relevant tender specifications has already been completed.

**Advice Sought**

13. Members are invited to comment on the above proposals.

**Security Bureau  
Fire Services Department  
March 2013**



**Existing Turntable Ladder Fleet of FSD**

Command	Division	Fire Station	Turntable Ladder Type	Year of Commissioning
Hong Kong	Central	Wan Chai	37-metre	2004
		Kong Wan	52-metre	2000 <sup>#</sup>
	East	North Point	37-metre	2004
		Chai Wan	55-metre	2011
	West	Aberdeen	37-metre	2011
		Kennedy Town	37-metre	1997 <sup>#</sup>
Kowloon	Central <sup>^</sup>	Ma Tau Chung	37-metre	2011
	East	Kwun Tong	52-metre (F15*)	2000
		Po Lam	37-metre	2004
		Po Lam	37-metre	1996 <sup>#</sup>
	South	Tsim Sha Tsui	55-metre	2012
	West	Lai Chi Kok	37-metre	2009
		Mong Kok	52-metre (F283*)	2000
New Territories	East	Ma On Shan	37-metre	2004
		Sha Tin	52-metre	2000 <sup>#</sup>
	North	Sheung Shui	37-metre	2011
	South	Tsuen Wan	37-metre	2011
		Lei Muk Shue	55-metre	2011
	South-west	Penny's Bay	37-metre	2004
		Chek Lap Kok	37-metre	1997 <sup>#</sup>
	West	Tuen Mun	52-metre (F282*)	2000
		Tuen Mun	37-metre	1996 <sup>#</sup>
Headquarters		Driving Training School	37-metre	1996 <sup>#</sup>
		Driving Training School	52-metre	1999 <sup>#</sup>

\* TLs proposed to be replaced in the current proposal.

# Funding has been granted for replacement of those vehicles.

<sup>^</sup> Funding has been granted for FSD to procure an additional 37-metre TL for the Kowloon Central Division. The new vehicle is expected to be deployed to Shun Lee Fire Station upon its commissioning in mid-2015.