

For discussion on  
28 October 2013

**LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**Administrative and Legislative Measures  
Relating to the “Waste Diversion Plan” for the  
Southeast New Territories Landfill**

**INTRODUCTION**

This paper consults Members on –

- (a) legislative measures relating to the “Waste Diversion Plan” for the Southeast New Territories (“SENT”) Landfill which comprises the designation of the landfill to receive only construction waste and other complementary measures to facilitate diversion of waste through the waste collection system and minimize the consequential traffic and environmental impacts; and
- (b) the funding proposal to subsidize the retrofitting of refuse collection vehicles (“RCVs”) <sup>1</sup> to meet the proposed new equipment standards.

**BACKGROUND**

2. There are complaints from the local community about the odour concern arising from the unsatisfactory hygienic conditions of some RCVs. In addition, the complaints against the odour concern from the SENT Landfill are strong. We aim to step up our efforts in addressing such concern as we seek to change the use of the SENT Landfill to receive construction waste only after the funding for its extension is approved and other necessary preparatory work is ready. In other words, municipal solid waste (“MSW”) will have to be diverted away.

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<sup>1</sup> In general, an RCV is a medium or heavy goods vehicle which is equipped with a loading device to load garbage from collection bins and a rear compactor to reduce waste volume.

## **Landfills, RTSs and MSW Collection in Hong Kong**

3. The SENT Landfill, located in Tseung Kwan O (“TKO”), is one of the three strategic landfills in Hong Kong, with the other two being the Northeast New Territories (“NENT”) Landfill and the West New Territories (“WENT”) Landfill located in Ta Kwu Ling and Nim Wan respectively. All the three strategic landfills currently accept MSW, construction waste and other special wastes including sewage sludge. In 2012, about 9,280 tpd of MSW was disposed of at the three landfills on a day-to-day basis, including about 6,290 tpd generated from domestic households and about 3,000 tpd from commercial and industrial (“C&I”) establishments. At present, about 85% of domestic MSW in Hong Kong is collected by FEHD or its contractors for transfer to the three landfills without any charges. For the remaining 15% of domestic MSW and all MSW from C&I sources, the waste producers hire private waste collectors to provide the collection services at their own costs.

4. Out of all landfilled MSW, about 5,910 tpd (or 63.7%) went through an RTS which is a facility that compacts MSW for bulk transfer. There are currently seven RTSs, being West Kowloon Transfer Station (“WKTS”), Shatin Transfer Station (“STTS”), Island West Transfer Station (“IWTS”), Island East Transfer Station (“IETS”), North Lantau Transfer Station (“NLTS”), Northwest New Territories Refuse Transfer Station (“NWNTRTS”) and Outlying Islands Transfer Facilities (“OITF”). They are located in different parts of the territory forming a network that helps to achieve a balanced distribution of waste to the landfills. By way of waste compaction and then bulk transfer, the RTSs may reduce the traffic burden and environmental problems caused by long haulage of RCVs. Such benefit is even more substantial for some 3,940 tpd of compacted MSW (about 42.4% of the total) which was sent to the WENT Landfill by vessels through RTSs with seafront access including IWTS, IETS, WKTS, NLTS and OITF. Annex A sets out the utilization level of individual RTSs in 2012.

### **The SENT Landfill: Exhaustion and Extension**

#### Projected Exhaustion and Proposed Extension

5. We have been closely assessing the remaining capacity of the existing SENT Landfill<sup>2</sup>. According to the latest projections, the existing SENT Landfill will almost be completely exhausted by the end of 2015. At present, Hong Kong relies on landfills heavily for waste disposal. Although we endeavour to reduce such reliance through the development of waste-to-energy facility in the long run, for the immediate future we cannot afford not to seek for extension of the three existing landfills. We therefore aim to re-submit the funding application of the three extension proposals to the LegCo within the first quarter of 2014.

### The Odour Concern

6. The three strategic landfills were built in the 1990s and are engineered to the international standard. As TKO develops, newly erected residential buildings have become increasingly close to the SENT Landfill with the closest local community (namely LOHAS Park) situating at about only one kilometre away. In recent years, more local complaints about the environmental nuisance caused by the operation of the SENT Landfill have been received, of which odour is a major subject of dissatisfaction<sup>3</sup>. In response to the complaints, Environmental Protection Department (“EPD”) has based on international experience implemented a basket of odour management measures (see Annex B) and have employed independent third party to conduct impact assessments. Given the efforts, odour nuisance that may arise from the operation of the SENT Landfill has, in fact, been reduced. Despite that, the concern of the local community remains<sup>4</sup>. In view of the growth in residential

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<sup>2</sup> Apart from the overall effectiveness in waste reduction in Hong Kong and the specific usage of a facility (vis-à-vis the other two landfills), settlement of waste that has already been landfilled is a key determining factor particularly towards the end of the useful life of a landfill.

<sup>3</sup> In 2012, we received more than 1,900 complaints against the odour from the SENT Landfill, and some 1,100 complaints in 2011.

<sup>4</sup> Apart from the SENT Landfill, the TKO community has also expressed concerns about the operation of a temporary fill bank which is immediately adjacent to the SENT Landfill and is managed by Civil Engineering and Development Department (“CEDD”). Efforts have been made by CEDD with a view to minimizing the nuisance that may arise due to the fill bank operation. For instance, cleansing of Wan Po Road has been further enhanced and some truckloads reduced through re-balancing the use of TKO temporary fill bank and promoting the more use of marine delivery via existing barging facilities and additional temporary barging facilities which could be introduced at Kwai Chung and Kai Tak by mid 2014 the earliest. Besides, CEDD is also pursuing the closure of TKO fill bank on General Holidays from early 2014 onwards. As a start, the operating hours have already been shortened by 4 hours (from 8 am to 9 pm to 10 am to 7 pm) since April 2013.

buildings in the TKO area, we consider there is a case to change the use of the SENT Landfill to accept only construction waste so that the odour concern arising from MSW and other wastes could be removed at root.

## **THE WASTE DIVERSION PLAN**

### **The SENT Landfill to Receive Construction Waste Only**

7. In 2012, the SENT Landfill received solid waste of about 4,800 tpd, including about 2,080 tpd of MSW and about 340 tpd of sludge both of which are odour-producing. Such waste (2,080 tpd + 340 tpd) has to be diverted away from the SENT Landfill as the use of the facility changes. The Sludge Treatment Facility is under development in Tuen Mun and is expected to commence commissioning starting from the end of 2013. We envisage that sludge will start to be diverted away from the SENT Landfill by then. As for MSW, in 2012, about 270 tpd of MSW disposed of at the SENT Landfill was collected by FEHD. To reduce disposal of odour-producing wastes from the SENT Landfill, FEHD is arranging to re-route the existing MSW collection services and divert such MSW away from the Landfill. However, the existing SENT Landfill users are mainly private waste collectors who collect about 1,800 tpd of MSW from a very wide catchment. Diverting such MSW away from the SENT Landfill must be implemented through legislative means. We therefore *propose* to designate the SENT Landfill to accept for disposal only construction waste<sup>5</sup> by amending Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap 354L, the “DWDF Regulation”) after the funding for its extension project is approved. In line with the existing Construction Waste Disposal Charging Scheme<sup>6</sup>, such landfilled construction waste may only contain no more than 50% by weight of inert construction waste. Requisite preparatory work to achieve this is set out in the paragraphs to follow.

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<sup>5</sup> In general, construction waste means any substance, matter or thing that is generated from construction work and abandoned. Some construction waste is inert and may be reused as construction materials. Examples include rock, rubble, boulder, earth, soil, sand, concrete, asphalt, brick, tile, masonry and used bentonite. Unlike MSW (which contains food waste) and sludge, construction waste in general has a low organic content and is hence odourless.

<sup>6</sup> Under the Construction Waste Disposal Charging Scheme, construction waste having a higher content of inert materials should be disposed of at the sorting facilities (no less than 50% of inert construction waste by weight) or the public fill reception facilities (100% inert) operated by the Civil Engineering and Development Department at \$100 and \$27 per tonne respectively. Landfills can only accept construction waste having not more than 50% by weight of inert materials and a disposal charge of \$125 per tonne applies.

## **RTSs to Accept More MSW**

8. If the SENT Landfill no longer accepts MSW, a considerable number of RCVs and other vehicles collecting MSW will have to find their ways to divert about 2,000 tpd of MSW to alternative designated waste disposal facilities. A significant portion was collected from the urban districts and would require very long haulage for direct transfer to the WENT and NENT Landfills. In mapping out the Waste Diversion Plan, we have to incorporate measures to maximize the utilization of the other RTSs with a view to minimizing the traffic and environmental impacts arising from the diversion.

### Re-routing of FEHD's Collection Services

9. As shown in Annex A, in 2012, the RTS network attained an overall utilization rate of 71.5%; WKTS and STTS jointly had an unused capacity of some 370 tpd only. Most (about 4,870 tpd or 82.4%) of the MSW going through the RTS network was collected by FEHD. FEHD is arranging to deliver some MSW it collects to the NENT Landfill direct without going through an RTS. FEHD will also consider how to re-route its collection services in some other districts such that when the SENT Landfill ceases to accept MSW, more FEHD-collected MSW will go through NLTS, IETS and IWTS. By this, we aim to make available RTS capacity of up to 1,800 tpd (mainly at WKTS and some at STTS) to cope with the MSW diverted from the SENT Landfill.

10. Since each RCV will have to make multiple trips each day to collect MSW for disposal at RTSs or landfills, FEHD's preliminary assessment indicates that it may incur about 30 additional RCV routes to achieve the proposed diversion due to the substantial increase in traveling distance and time for each collection and disposal trip. Apart from the implied increases in the operating cost and contract price, changes to the existing collection schedules would be required. Similarly for the private waste collectors, they will have to make diversion plans which could affect their clients.

### Opening Up STTS for Private Waste Collectors

11. A requisite for mobilizing the spare capacity of STTS is to open it up for use by private waste collectors. At present, STTS is the only RTS that is exclusively used by FEHD and its contractors, and the

utilization rate is about 80%<sup>7</sup>. However, in view of the practical need to maximize the utilization of the RTS system under the Waste Diversion Plan, we plan to re-route FEHD's collection service (cf. paragraph 9) by which we may free up spare capacity in STTS. Therefore we *propose* to open up STTS for use by private waste collectors by amending the Waste Disposal (Refuse Transfer Station) Regulation (Cap. 354M; the "RTS Regulation"). This will supplement WKTS as an alternative waste disposal facility to the SENT Landfill and help address the demand for disposal facility in the eastern part of the territory, particularly Kowloon East.

### Rate Reduction for RTSs

12. With the implementation of the aforesaid measures, we envisage that more MSW will be transferred to the landfills through the RTS network after compaction. We estimate some 7,710 tpd (or 83.1%, up from the current 63.7%) of MSW that requires disposal would go through an RTS including some 5,530 tpd (or 60.0%, up from the current 42.2%) being sent to the WENT Landfill through marine transport. This is in line with our intention to minimize the potential traffic burden and environmental problems by maximizing the utilization of RTSs, particularly those with seafront access.

13. At the same time, we estimate that the RTS network will be 93.3% full with all urban RTSs fully utilized upon the above waste diversion. The slim margin of RTS capacity suggests that in addition to the re-routing of FEHD-collected waste to the less utilized RTSs, private waste collectors should be encouraged to take up the RTS with more unused capacity. Yet the use of a particular RTS by private waste collectors is entirely voluntary and is mainly cost-driven. Under the established policy, the use of an RTS by private waste collectors is subject to a fee which is set at a level intended to be commercially viable to the trade and to enable the Government to recover at least the additional cost for handling the waste delivered by private waste collectors. The RTS fees have not been revised for over 10 years and have already resulted in under recovery of the costs under the established charging policy. On balance, however, we propose to optimize utilization by suitable fee reduction to create the necessary incentives.

14. WKTS and STTS are located within reasonable distance from the waste sources being affected when the SENT Landfill ceases to receive

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<sup>7</sup> In 2012, the unused capacity at STTS was about 200 tpd (out of a design capacity of 1,200 tpd).

MSW. For operational reasons, private waste collectors would have stronger incentives to use the two RTSs. Some private waste collectors may also consider using IETS and IWTS if they operate on the Hong Kong side or serve South Kowloon. For these four RTSs which serve the most affected areas, we *propose* to charge a low fee at \$30 per tonne which is the current fee level for WKTS and the lowest in the RTS system. In other words, there will be fee reduction for IETS and IWTS which are charging at \$40 per tonne and the fee for STTS will be set at a level below the marginal cost at \$60 per tonne<sup>8</sup>. For the other RTSs, we do not recommend any fee reduction for NLTS because the major change is to have more FEHD-collected MSW taking up its unused capacity. Regarding NWNTRTS and OITF, since they are unlikely to be affected by the Waste Diversion Plan and given their remote geographical location, similar fee reduction may not be effective. The new fees have to be implemented by amending the RTS Regulation.

15. In the long term, in order to further promote the use of RTSs for MSW collection and to better serve local waste collection needs, the provision of an RTS in the eastern region of the territory is required. A site search study is being conducted to identify suitable cavern site for locating this facility. In addition, we will review the Hong Kong Planning Standards and Guidelines to incorporate the provision of an RTS as basic environmental infrastructure at the early planning stage of new development areas. We also need to more fundamentally review the role of RTSs as part of our waste management infrastructure and accordingly update the charging policy taking into account also other developments on say MSW charging.

### **RCVs to Meet Certain Equipment Standards**

16. Notwithstanding the increased use of RTSs, diverting MSW from the SENT Landfill will inevitably change the RCV traffic load in the neighbourhood of the other designated waste disposal facilities. We are committed to taking proactive measures to enhance the environmental performance of RCVs and avoid nuisance arising from their operation. At present, many RCVs simply do not have the adequate device to avoid such nuisance as leachate dripping, waste spattering or dust. To tackle this problem, we *propose* to amend the DWDF Regulation so that when

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<sup>8</sup> Under the established policy, the use of an RTS by private waste collectors is subject to a fee which is set at a level intended to be commercially viable to the trade and to enable the Government to recover at least the marginal cost for handling the waste delivered by private waste collectors.

an RCV delivers waste to the landfills and RTSs, it has to be fully enclosed and properly equipped for more effective avoidance of nuisance. More specifically, a person who drives into a landfill or an RTS an RCV that does not meet the relevant equipment standards commits an offence and is liable to a fine at Level 6 (i.e. \$100,000). Such equipment standards include –

- (a) the RCV has been equipped with a metal tailgate cover and a waste water sump tank (collectively as “specified devices”) which are in good working conditions; and
- (b) the design and construction of the specified devices are in the opinion of the Director of Environmental Protection suitable for the purposes of (i) ensuring safety to the personnel present at the facility; (ii) avoiding nuisance or danger to health or the environment arising from the carrying on of activity in the facility; and (iii) preventing disruption to the operation of the facility or the carrying out of relevant activity in the facility.

We will keep in review the effectiveness of the proposed new equipment standard requirements and in parallel assess the need of further beefing up the existing control under the Waste Disposal Ordinance (Cap. 354).

17. At present, there are some 530 RCVs in Hong Kong of which 150 are Government vehicles operated by FEHD and the remaining 380 are private RCVs engaged in FEHD’s refuse collection contracts or serving private clients. Whilst all of FEHD’s RCVs and most of those operated by its contractors should have no problem in meeting the proposed equipment standards<sup>9</sup>, most of the other private RCVs have yet to meet the proposed equipment standards. In June 2013, the Government announced the intention to assist private RCV operators to retrofit their serving RCVs so to comply with the new equipment standard requirements. As a first step, a pilot scheme was launched for about 10% of private RCVs which are yet to meet the proposed equipment standards to test out various technical aspects of the retrofitting process. The information and experience gathered in the pilot scheme have been used to devise the full-scale subsidy scheme.

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<sup>9</sup> FEHD has been updating the requirements on the RCVs used under its collection contracts to meet the proposed equipment requirements, when the contracts are due for re-tender. As at end-September 2013, only 3 collection contracts covering 19 RCVs have not yet been updated, though in practice all the RCVs deployed by the contractors already meet the required standards.



Under the scheme, a one-off subsidy will be paid to the retrofitting workshop to meet the actual cost of work, subject to a pre-set ceiling level.

18. A gist of the funding proposal for the subsidy scheme is set out at Annex C. Subject to Members' views, we would submit it to the LegCo Finance Committee for funding approval.

## **LEGISLATIVE TIMETABLE**

19. The new RCV equipment standards should be pursued as a matter of priority. In view of the limited working life of the existing part of the SENT Landfill that remains and the lead time required for diverting waste, designation of the facility to receive only construction waste may have an impact only if funding for its extension project is approved by the LegCo Finance Committee. Changes to the RTS system (including the opening up of STTS as well as the new RTS fees) may be implemented separately to facilitate the private waste collectors to get prepared for necessary MSW diversion at an early opportunity by say trying out new routes and make other necessary adjustments. We aim to introduce the relevant amendment regulations into the LegCo for negative vetting within 2013. Subject to their enactment, we will separately appoint the commencement date for individual components of the Waste Diversion Plan by notice in the Gazette taking into account progress.

## **WAY FORWARD AND ADVICE SOUGHT**

20. Members are invited to offer views and comments on the proposed measures for the Waste Diversion Plan. Subject to any other views from this Panel, we will proceed with further preparation of –

- (a) the legislative amendments required for the implementation of the Waste Diversion Plan for their early introduction into the LegCo within 2013; and
- (b) the subsidy scheme on the retrofitting of RCVs and aim to submit the funding application for consideration by the LegCo Finance Committee at its meeting on 15 November 2013.

**Environment Bureau / Environmental Protection Department  
October 2013**

## Utilization of RTSs in 2012

Facility <sup>10</sup>	Collected by FEHD	Collected by Private Collectors	Total Utilization	Design Capacity	Remarks
IETS	655 tpd	142 tpd	66.4%	1,200 tpd	♦ With seafront access
IWTS	426 tpd	105 tpd	53.1%	1,000 tpd	♦ With seafront access
OITF	75 tpd	8 tpd	13.4%	611 tpd	♦ With seafront access ♦ Only Ma Wan Transfer Station is open to private waste collectors
NLTS	67 tpd	111 tpd	27.4%	650 tpd	♦ With seafront access
NWNTRTS	843 tpd	150 tpd	90.3%	1,100 tpd	
WKTS	1,803 tpd	527 tpd	93.2%	2,500 tpd	♦ With seafront access
STTS	998 tpd	--	83.2%	1,200 tpd	

<sup>10</sup>

## Abbreviations:

IETS: Island East Transfer Station;

OITF: Outlying Islands Transfer Facilities;

NWNTRTS: North West New Territories Refuse Transfer Station;

STTS: Shatin Transfer Station

IWTS: Island West Transfer Station;

NLTS: North Lantau Transfer Station;

WKTS: West Kowloon Transfer Station;

**Odour Management Measures for the SENT Landfill**

The SENT Landfill is operating in high international standards. To address the concerns from the TKO residents on odour nuisance, EPD has stepped up odour management and control measures over the past five years to further abate the potential odour impact of the landfill. These measures include:

- (a) minimizing the size of the tipping area as far as practicable to minimize odour emitted from the disposed waste;
- (b) compacting the waste and covering it by construction waste immediately and covering the tipping area with 300 mm thick layer of soil (increased from 150 mm), followed by a layer of cement-based material namely “Posi-Shell Cover” at the end of the daily waste reception process to minimize odour emitted from the disposed waste;
- (c) covering the dewatered sludge from Stonecutters Island Sewage Treatment Works by soil immediately to minimize odour emitted from the disposed sludge;
- (d) covering the non-active tipping areas with temporary impermeable liner, in addition to the 300 mm interim soil cover. For areas that are not suitable for installing the temporary impermeable liner, “Posi-Shell Cover” is applied in addition to the 300 mm interim soil cover to further prevent emission of landfill gas and odour from covered waste;
- (e) putting a movable cover, fitted with activated carbon at the exhaust pipes, on the special waste trench to minimize odour emitted from the special waste trench during its operation;
- (f) installing extra landfill gas extraction wells and mobile landfill gas flaring units, in addition to the existing landfill gas extraction system, to enhance the collection of landfill gas for treatment and to completely combust localized landfill gas to prevent potential landfill gas and odour

emission;

- (g) setting up fixed deodourisers at the site boundary along Wan Po Road, at the weighbridge area and at the entrance/exit of the landfill to neutralize odour from RCVs entering the landfill;
- (h) providing mobile deodourisers at the tipping area to neutralize odour from waste deposited at the tipping area and rearranging the operation period of some mobile deodourisers for 24-hour operation to further control the emission from the landfill;
- (i) restoring the landfill progressively to cap the completed waste disposal areas with a permanent liner system and restore the areas with suitable engineering structures such as drainage system and plantation to form a natural landscape;
- (j) upgrading the existing wheel washing facility to a full-body vehicle washing facility to improve the hygienic conditions of RCVs before leaving the landfill;
- (k) flushing and cleaning Wan Po Road (from Hang Hau Round-about to the SENT Landfill) to supplement the street cleaning work by FEHD to tackle the odour concern from the wastewater dripping from RCVs travelling along Wan Po Road and to improve the hygiene condition of Wan Po Road.

2. About \$80 million of capital cost has been spent to implement the above measures.

**Proposed One-off Subsidy Scheme for Retrofitting  
Refuse Collection Vehicles to Meet Certain Equipment Standards**

**Proposal**

We propose to introduce legislative amendments to require all RCVs used for delivering waste to landfills, refuse transfer stations and any other new designated waste disposal facilities to be fully enclosed and properly equipped for more effective avoidance of nuisance. In June 2013, the Government has publicly committed to roll out a one-off subsidy scheme to assist the waste collection trade to retrofit their vehicles to meet the proposed new legislative requirements.

**Justification**

2. RCVs are widely used by FEHD and private waste haulers in Hong Kong for collection of waste from street-level, residential and business premises for delivery to refuse transfer stations or landfills.

3. RCVs are often subject of complaints in causing environmental hygiene problems such as odour nuisance, dripping of leachate and spattering of waste. Many members of District Councils, Legislative Council and general public have been demanding for full enclosure of RCVs. Having regard to the environmental and public concerns, the Government will amend the Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap 354L) to mandate that RCVs used for delivering waste to landfills, refuse transfer stations and any other new designated waste disposal facilities must be equipped with a metal tailgate cover and a waste water sump tank. Our current plan is to table the proposed legislative amendments at the Legislative Council for negative vetting before end of 2013. To help the waste collection trade to adapt to the more stringent control on RCVs and to achieve early improvement to abate the environmental nuisance caused by RCVs, we propose to roll out a one-off subsidy scheme to assist the private RCV owners to retrofit their vehicles to meet the proposed equipment standards.

## **Proposed Implementation Arrangement**

4. At present, there are some 530 RCVs in Hong Kong of which 150 are Government vehicles operated by FEHD and the remaining 380 are private RCVs engaged in FEHD's refuse collection contracts or serving private clients. Whilst all of FEHD's RCVs and most of its contractors' RCVs are already equipped with tailgate cover and waste water sump tank, most of the other private RCVs (estimated to be in the order of some 300 out of 380) have yet to meet the proposed equipment standards. In June 2013, the Government announced the intention to assist private RCV owners to retrofit their RCVs so as to comply with the new equipment standards. As a first step, with the collaboration of the waste collection trade, a pilot scheme was launched for about 10% of private RCVs which are yet to meet the proposed equipment standards to test out various technical aspects of the retrofitting process. The pilot scheme confirmed that it was technically feasible to retrofit a tailgate cover and a waste water sump tank to an existing RCV and local vehicle workshops were capable of carrying out the retrofitting works. The information and experience gathered in the pilot scheme (e.g. costs and time required for the retrofitting works, number of workshops capable of and interested in carrying out the retrofitting works, preference and views of RCV owners, etc.) have been used to devise the full-scale subsidy scheme.

5. Subject to Panel Members' views, we intend to seek funding approval from the Finance Committee for providing a one-off subsidy for private RCV owners to retrofit their vehicles.

6. The retrofitting work will involve one or a combination of the following –

- (a) installation of a metal tailgate cover with powering device at the rear of the vehicle;
- (b) enlargement of the existing waste water sump tank or installation of a new one for collection of leachate; and
- (c) improvement works on an RCV already equipped with tailgate cover or sump tank, e.g. installation of additional cover plates or replacement of worn out or broken parts.

After discounting about 30 RCVs participating in the pilot scheme, it is

estimated that about 270 RCVs are required to be retrofitted with both tailgate covers and waste water sump tanks to meet the proposed equipment standards. Based on the assumptions that these 270 private RCV owners would apply for the subsidy and that the average cost for such retrofitting work is around \$50,000, the retrofitting cost for 270 RCVs is estimated to be around \$13.5 million. On top of this, around \$1.2 million is required for improvement works or replacement of worn out or broken parts of private RCVs already equipped with tailgate covers and sump tanks (about 60 in number) on a one-off basis. Another \$2.35 million is required for the administration and supervision fees for the Electrical and Mechanical Services Trading Fund. A 10% contingency is also added to cater for variation in estimated number of participating RCVs and the estimated costs. The total funding required for the subsidy scheme is therefore estimated to be \$18.755 million. A breakdown is provided in Appendix 1.

7. Subject to Finance Committee's funding approval, we intend to take forward the proposed subsidy scheme as follows –

- (a) The Electrical and Mechanical Services Department (“EMSD”) will be engaged to provide engineering and technical support for the subsidy scheme including drawing up specifications, reviewing capability of workshops, assessing costs, formulating subsidy levels, examining completed work, etc.
- (b) The RCV owner has to submit a retrofitting application with proposed design and workshop to EPD. The proposed design of retrofitting works has to be approved by EMSD before commencement of the retrofitting works. RCV owners are free to choose their own preferred retrofitting workshops. The completed retrofitting work will have to be examined and certified by EMSD for compliance with the functional requirement before payment of the subsidy. Furthermore, the subsidy, subject to a pre-set ceiling level, will be paid directly to the retrofitting workshop to meet the actual cost of the retrofitting work to ensure that the allocated resources would be used properly for their intended purposes.
- (c) Ceiling subsidy levels will be pre-set for different combinations of work items, based on the cost assessment



by EMSD.

- (d) The receipt of the subsidy by the workshop prescribes a one year all inclusive warranty for the retrofitting work. The follow-up and maintenance of the finished retrofitting work will be arranged by the RCV owners with the workshops directly.

### **Proposed Implementation Timetable**

8. We plan to roll out the subsidy scheme in January 2014. The subsidy scheme will be one-off and will be for a limited period of time in the run up to the commencement of the new statutory requirements on RCV equipment standards. Subject to further consultation with the trade, we plan to set a nine-month subsidy application period from January to September 2014.

## Appendix 1

### Breakdown of Funding Sought in the Subsidy Scheme for Retrofitting Refuse Collection Vehicles to Meet Certain Equipment Standards

Item	No. of RCVs	Unit Rate (\$)	Sub-total (\$)
(a) Installation of metal tailgate cover plus Enlargement/addition of sump tank	270	50,000 <sup>(1)</sup>	13,500,000
(b) Improvement works/replacement of or worn out or broken parts	60	20,000 <sup>(2)</sup>	1,200,000
(c) EMSTF administration and supervision fee (including fee for the consultant employed by EMSD)			2,350,000
		<b>Sub-Total</b>	<b>17,050,000</b>
(d) 10% Contingency			1,705,000
		<b>Grand-Total</b>	<b>18,755,000</b>

Note:

- (1) The actual subsidy rate is subject to a pre-set limit ranging from \$39,900 to \$53,300, depending on the combination of work items. For budgeting purpose, a unit rate of \$50,000 is assumed.
- (2) The actual subsidy rate is subject to a pre-set limit ranging from \$5,500 to \$34,300, depending on the work items. For budgeting purpose, a unit rate of \$20,000 is assumed.
- (3) We plan to start inviting subsidy applications from RCV owners in January 2014. The actual cashflow requirement will depend on the level of participation of eligible RCV owners because the retrofitting works will be taken on a voluntary

basis. For planning and budgeting purpose, assuming that 10% of the eligible applicants will have their retrofitting work completed in 2013/14 and the rest in 2014/15, the breakdown of the funding required will be as follows -

<b>Financial Year</b>	<b>Funding Required</b>
2013-14	\$17,050,000 (the costs of items (a) to (c)) x 10% = \$1,705,000
2014-15	\$17,050,000 x 90% + \$1,705,000 (contingency) = \$17,050,000