Waste Disposal (Designated Waste Disposal Facility) (Amendment) Regulation 2013 and Waste Disposal (Refuse Transfer Station) (Amendment) Regulation 2013

This note provides the supplementary information requested by the Subcommittee on Waste Disposal (Designated Waste Disposal Facility) (Amendment) Regulation 2013 ("DWDF Amendment Regulation") and Waste Disposal (Refuse Transfer Station) (Amendment) Regulation 2013 at its meeting on 13 December 2013.

Refuse Transfer Stations

(a) the current proportion of MSW received by each of the seven Refuse Transfer Stations ("RTSs") with breakdown by the mode of transportation (i.e. by land or sea) and waste collectors (i.e. the Food and Environmental Hygiene Department ("FEHD") or private waste collectors), vis-a-vis the existing utilization level and design capacity of the respective RTS;

2. The data requested are as follows:

Table 1 - Utilization of RTSs in 2012
(With breakdown of waste collectors and mode of transportation to landfill)

Facility (1)	Collected by FEHD and its contractors (tpd)	Collected by private collectors (tpd)	Total Utilization	Design capacity (tpd)	Mode of transport to landfill
WKTS	1803	527	93.2%	2500	All by sea
STTS	998	0	83.2%	1200	All by land
NLTS	67	111	27.4%	650	All by sea
IETS	655	142	66.4%	1200	All by sea
IWTS	426	105	53.1%	1000	All by sea
OITF (2)	75	8	13.6%	611	All by sea
NWNTRTS	843	150	90.3%	1100	All by land

Note 1 - Abbreviations:
WKTS: West Kowloon Transfer Station
STTS: Shatin Transfer Station

NLTS: North Lantau Transfer Station
IETS: Island East Transfer Station
IWTS: Island West Transfer Station
OITF: Outlying Islands Transfer Facilities
NWNTRTS: North West New Territories Refuse Transfer Station

Note 2 - Only Ma Wan Transfer Station is open to private waste collectors.

(b) the estimated freed-up or unused capacity of individual RTSs and their utilization by FEHD/private waste collectors to cope with MSW diverted from the SENT Landfill as a result of the implementation of the "Waste Diversion Plan" and other complementary measures;

(c) the existing routes of waste collection and delivery by refuse collection vehicles ("RCVs") of FEHD (or its contractors) and private waste collectors to the RTSs and landfills, and the planned/estimated changes in these routes arising from implementation of the "Waste Diversion Plan" and other complementary measures, including the estimated number/percentage of RCVs and trips involved; and

3. The data requested are as follows:

Table 2 - Refuse collection and delivery by FEHD (Existing and after Diversion)

Facility	District where waste is collected		Unused RTS capacity (tpd)		
	Existing	After diversion (3)	Existing	Estimated change resulting from re-routing	After re-routing
WKTS	Kwai Tsing, Tsuen Wan, Mong Kok, Kowloon City, Sham Shui Po, Wong Tai Sin, Yau Tsim	Shamshuipo, Wong Tai Sin, Yau Tsim	170	+945	1115

Facility	District where waste is collected		Unused RTS capacity (tpd)		
	Existing	After diversion (3)	Existing	Estimated change resulting from re-routing	After re-routing
STTS	Shatin, Tai Po, Kwun Tong	Shatin, Sai Kung, Kwun Tong (part)	202	+135	337
NLTS	North Lantau	North Lantau, Kwai Tsing, Tsuen Wan	472	-415	57
IETS	Wan Chai, Eastern	Wan Chai, Eastern, Kowloon City (part)	403	-190	213
IWTS	Central & Western, Southern	Central & Western, Southern, Mong Kok, Kowloon City (part)	469	-340	129
OITF	Outlying Islands	Outlying Islands	19	0	19
NWNTRTS	Tuen Mun, Yuen Long	Tuen Mun, Yuen Long	107	0	107
SENT	Sai Kung	--			
NENT	--	Tai Po, Kwun Tong (part)			

Note 3 - Subject to FEHD's further review on the collection routing and the necessary arrangement with its collection contractors.

Table 3 - Predicted diversion of waste from SENT landfill collected by private collectors

Facility likely be used by private collectors	% of diverted waste[(4)]	Districts of waste collected from
WKTS	63.7%	Yau Tsim Mong, Shamshuipo, Kowloon City, Wong Tai Sin, Kwun Tong, Kwai Tsing & Tsuen Wan
STTS	19.7%	Shatin, Tai Po, Sai Kung & Tseung Kwan O
NLTS	0.0%	
IETS	10.9%	Wanchai and Eastern
IWTS	5.8%	Central & Western, Southern
OITF	0.0%	
NWNTRTS	0.0%	

Note 4 - The prediction is made on the assumption that private collectors would deliver the collected waste to the RTS in close proximity to the district of collection. However, the use of a particular RTS by private waste collectors also depends on the business consideration and is entirely voluntary.

(d) the plan and timeframe, if any, for building new RTSs, with a view to ultimately enabling more or all landfilled MSW to go through an RTS for waste compaction before disposal at landfills.

4. We are looking for a suitable location to build a new refuse transfer station in the eastern region of Kowloon and the New Territories. Site search studies are being conducted. We hope to identify locations with seafront access but suitable inland locations including cavern sites will also be considered. In addition, during planning of new development areas, we have requested for reservation of sites for future provision of waste management and material recovery facilities to serve these areas.

Equipment Standards for RCVs

(a) provide the administrative guidelines on the detailed technical specifications of the specified devices, including whether certification by the Electrical and Mechanical Services Department ("EMSD") would be required under these guidelines outside the one-off subsidy scheme for retrofitting RCVs to meet

the relevant standards; and the measures to ensure compliance with the administrative guidelines if they are not stipulated in the legislation;

5. The equipment standard requirements proposed under section 3B comprise three components: (i) mandatory installation of two specified devices (cf. section 3B(3)(a)), (ii) performance requirements on the construction of the specified devices (cf. section 3B(3)(b)) and (iii) the maintenance of the specified devices in good working condition (cf. section 3B(3)(c)). Based on the detailed technical specifications drawn up for the one-off subsidy scheme, we have prepared the draft guideline at **Annex A** which will be published in due course to assist the trade in understanding how to meet the performance requirements under section 3B(3)(b). Enforcement of the Regulation will be undertaken by EPD and certification by EMSD will not be required.

(b) how enforcement could be taken under the following situations:

(i) an RCV can meet the proposed equipment standards specified in the DWDF Regulation but not the detailed technical specifications in the administrative guidelines;

(ii) the RCV equipment is suitable for the purposes specified in the DWDF Regulation but cannot achieve the desired outcome in minimizing environmental nuisance; and

(iii) the RCV meets the proposed equipment standards but the RCV driver/user does not use the equipment properly (e.g. failing to close the metal tailgate cover or cover the waste water sump tank);

6. There are many RCV models and new models will continue to emerge in future. We have therefore adopted a performance-based approach for the equipment standard requirements. Our intention is that the guideline should be administrative by nature. It follows that in the hypothetical scenario (b)(i) above, enforcement of the Regulation will be determined on the evidence of the case, not by relying on the administrative guideline. The guideline will also be reviewed from time to time and updated as necessary to reflect the developments in RCV design. This will help ensure that the prevailing version of the administrative guideline can provide advice to the trade how the serving RCVs can meet the performance requirements.

7. Where an RCV has caused nuisance such as leachate dripping or waste spattering, prosecution may be initiated under the Public Cleansing and Prevention of Nuisances Regulation (Cap 132BK). Enhanced enforcement actions have been undertaken jointly by the Police, FEHD and EPD. In the past 4 months, a total of 38 joint actions were undertaken, leading to the issue of 45 summonses against dripping of leachate in the vicinity of the three landfills. Section 3B proposed under the DWDF Amendment Regulation seeks to address a more fundamental problem where at present, many RCVs simply do not have the adequate device to avoid such nuisance. If the construction of the specified devices meets the requirements under section 3B(3)(b) and such devices are in good working conditions as required under section 3B(3)(c), they will be adequate (when used properly) in achieving the desired outcome in minimizing environmental nuisance during RCV operations. Our enhanced enforcement will step up deterrent effect which will encourage the proper use of the devices and address any non-compliance cases that cause nuisance.

(c) consider setting out in the DWDF Regulation the basic technical/functional requirements of the specified equipment standards of RCVs to facilitate compliance and enforcement, and/or incorporating in the Regulation references to the administrative guidelines so as to enhance the enforceability of the guidelines;

8. The detailed technical/functional specifications for the one-off subsidy scheme are drawn up with the intention to enable the retrofitting of all currently serving RCVs to meet the compliance standards for section 3B. The guideline will be reviewed from time to time and updated as necessary to reflect the developments in RCV design so as to ensure that the prevailing version can provide advice to the trade how the serving RCVs can meet the performance requirements. We welcome Members' comments on whether there is a need to strengthen the Regulation in this respect.

(d) provide information on the improvement measures and enforcement actions to address the environmental concerns arising from RCVs of a non-compaction or non-fully-enclosed type of design which would not be subject to the proposed equipment standards to be specified in the DWDF Regulation, in particular RCVs carrying construction waste; and whether consideration would be given to requiring the waste collectors concerned to adopt a fully-enclosed type of design for their RCVs,

or to cover/enclose the waste properly during delivery to prevent waste/refuse from falling onto the road, and if not, the reasons; and

9. Apart from RCVs, there are different types of vehicles that are commonly used for the transportation of waste to the designated waste disposal facilities. Please see **Annex B** for examples. Some of these vehicles are by design fully enclosed already (e.g. tanker) or have been equipped to enable full enclosure (e.g. some tipper lorries) such that statutory equipment standard requirements may not be necessary. For the other vehicle types, technical feasibility has yet to be established as to whether any retrofitting work may enable the vehicles to be fully enclosed. On the other hand, operation of these vehicles is regulated under existing legislation including Cap 132BK. Enhanced enforcement actions have been undertaken jointly by the Police, FEHD and EPD along the access roads near the three strategic landfills.

10. In addition to enforcement actions, the Government has been promoting the use of properly covered dump trucks through administrative measures. As required by technical circular, all public works capital projects with contract sums of $20 million or more are required to use dump trucks equipped with mechanical covers for delivery of construction and demolition materials to and from construction sites. Installation of mechanical covers for dump trucks as an item of the "Pay for Environmental Measures" provides financial incentives to the works contractors and the trade for implementing the measure satisfactorily.

(e) consider increasing the level of penalty on illegal dumping from RCVs by private waste collectors.

11. Under section 16A of the Waste Disposal Ordinance (Cap 354), unauthorized depositing of waste is subject to a fine of $200,000 and imprisonment for 6 months for the first offence, and a fine of $500,000 and imprisonment for 6 months for a second or subsequent offence. In general, the court will take into account various factors, such as the nature or seriousness of the offence, environmental impacts and mitigation, before sentencing in each case. In scrutinizing the Waste Disposal (Amendment) Bill 2013 (which seeks to enhance the control of the depositing of construction waste on private land), the Bills Committee noted that among the relevant convicted cases, the average fine showed an increasing trend over the past few years. We will keep the penalty level under constant review taking into account relevant factors.

Assessment of odour reduction

12. Through an independent audit commissioned in 2006, the odour management at the South East New Territories (SENT) Landfill was confirmed as being in line with the international best practices. There have been however continued efforts to improve the odour performance of the landfill as mentioned in Annex C of the Legislative Council Brief (File Ref.: (7) in EP CR 9/150/38). In another independent study carried out in 2012, it was further affirmed that best available new technologies or approaches for management of odour have already been adopted at the SENT Landfill and its odour control activities were comparable to those adopted overseas. As an illustration, of the enhanced odour control measures implemented at the SENT Landfill, the application of "Posi-Shell Cover" (a cement-based material) has been reviewed and concluded to have reduced odour emissions from the areas of intermediate cover and daily cover by up to 70% and 95% respectively. EPD will continue with the "Posi-Shell Cover" application and has reserved about $16 million for the capital cost of other enhancement measures. EPD will also vigorously monitor the compliance with the relevant standards and contract requirements by the SENT Landfill operator.

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Annex A

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Guidelines on the Design and Construction of Metal Tailgate Cover and Waste Water Sump Tank installed on Refuse Collection Vehicle[1]

Metal Tailgate Cover

1. The hopper and the compactor on the refuse collection vehicle (RCV) shall be enclosed by the metal tailgate cover to effectively mitigate the spread of odour.

2. The tailgate cover shall be made of metal (e.g. aluminium or aluminium alloy) with sufficient thickness and suitable for application in the corrosive environment during refuse collection operations.

3. The opening and closing of the metal tailgate cover shall be powered by pneumatic or hydraulic or electric system.

4. If there is an opening on the roof of the tailgate, a cover made of durable material shall be installed to effectively cover it.

5. If for safety and noise reduction reasons, a flexible plastic strip has to be installed at the bottom of the tailgate cover, the height of the flexible plastic strip shall be less than 18 centimetres.

6. The metal tailgate cover shall not block or cover the warning light on the roof of the vehicle.

7. If control of metal tailgate cover is available in the driver cab, the control shall only allow activation of the opening (but not closing) of the metal tailgate cover.

8. The surface of metal tailgate cover shall be non-reflective.

Waste Water Sump Tank

9. Waste water sump tank shall be able to collect and store all leachate discharged from the body, the compactor and the hopper unit. The tank should be completed with anti-spillage cover plate to prevent spillage of waste water during parking and travelling.

[1] In general, a refuse collection vehicle 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.

10. The size of waste water sump tank shall be of a capacity not less than: -
    a. 100 litres for RCVs with Permitted Gross Vehicle Weight below 16 tonnes
    b. 120 litres for RCVs with Permitted Gross Vehicle Weight of 16 tonnes and above, but below 24 tonnes
    c. 150 litres for RCVs with Permitted Gross Vehicle Weight of 24 tonnes and above

11. The waste water sump tank shall be made of anti-corrosive material of appropriate thickness (e.g. galvanized steel or stainless steel) and suitable for application in the corrosive environment during refuse collection operations.

12. No foul liquid shall leak from the waste water sump tank. The sump tank shall have an opening for internal cleaning purpose. The door of the opening shall be equipped with proper sealing design (e.g. gasket) to prevent the leakage of foul liquid when it is closed. If the sump tank has a drain valve, the drain valve shall not leak foul liquid when it is closed.

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Annex B

Other Types of Waste Collection Vehicles

Type A:
Dump truck

Type B:
Tipper Lorry

Type C:
Crane Lorry

Type D:
Tanker

Type E:
Demountable

Type F:
Grab-mounted Lorry