Attachment-4-7-3-National BAT-Waste Sector Transfer & Materials Recovery Activities

The Drehid Waste Management Facility is designed and operated in accordance with the EPA's *Final Draft BAT Guidance Note on Best Available Techniques for the Waste Sector: Waste Transfer and Materials Recovery* published in December 2011.

Introduction:

The existing waste management infrastructure comprises a MSW waste landfill and a biowaste composting facility, as well as a leachate storage and landfill gas treatment compound located adjacent to Phase 9 of the existing landfill. The proposed additional landfill infrastructure and additional composting capacity will utilise the existing similar infrastructure already in place and operational at the facility. In addition, the new MSW processing and Composting facility will be contained within an extension to the existing compost building to maximise infrastructure and utility efficiency.

A selection of the measures employed at the Drehid WFM in accordance with this BAT Guidance Note are:

Control Techniques:

Techniques for Prevention and Minimisation of Resource Consumption

- Energy consumption is monitored at the facility and an Energy Efficiency Management Plan is in place;
- Opportunities to purchase and install energy efficient equipment at the facility are sought;
- All machinery and equipment will be regularly maintained and switched off when not in use, where possible;
- Landfill gas from the existing MSW Landfill is utilised to generate electricity – the proposed Additional Landfill capacity will also be connected to this plant;
- Key performance indicators will be set on an annual basis to optimise energy consumption.

Raw Materials

- Output from the compost facility is used as day cover in the MSW Landfill to reduce the requirement to import engineering materials for this purpose.
- Procedures are in place to determine the most suitable material for use, to prevent the use of materials that may have an unacceptable environmental impact in their manufacture, end-use and ultimate disposal.
- Careful selection and use of material is applied during construction.

- Recovered soil, stone and rubble from the Soil & Stone and C&D Waste Processing facility will reduce the dependency on import of virgin materials.

Techniques for the prevention and minimisation of emissions:

Minimisation of Emissions to Air – Dust, Particulates (PM_{10}, $PM_{2.5}$) and Bioaerosols

- Enclosed waste handling and storage areas for waste with the potential to generate dust or particulate emissions, and cleanliness of site roads;
- Policy to prevent idling of vehicles both on and off-site including RCVs;
- Monitor traffic to ensure vehicles are using the designated haul routes;
- Efficient scheduling of deliveries to minimise number of deliveries required, and in turn their emissions;
- Prompt compaction after discharge from the vehicle delivering the waste, followed by covering with suitable material (natural or artificial cover materials) to sufficient depth;
- Provision of spray equipment around active tipping area if dusty waste is a regular problem;
- Use of paved site roads;
- Regular sweeping of surfaced site roads;
- Pre-treatment of wastes, e.g., wetting, solidification, encapsulation;
- Water sprinklers are in place in relevant waste handling areas.

Minimisation of Odour

- Construction of new odour abatement system at the existing Composting Facility and a new odour abatement system at the new MSW Processing & Composting Facility including four emissions stacks.
- Regular inspections, monitoring and maintenance of waste handling areas and abatement equipment.
- Minimisation of open tipping face area;
- Prompt replacement, compaction and covering of wastes;
- Provision of landfill gas collection and management infrastructure prior to waste emplacement;
- Restriction of loads known to be particularly odorous and immediate burial of odorous wastes;
- Restrict tipping activities during periods of adverse weather conditions;
- Upgrading and sealing of sump covers;
- Monitoring and regular balancing of gas extraction wells;
- Use of horizontal and vertical gas extraction wells;
- Use of horizontal gas collection pipe work in active cell; and
- Use of appropriate materials for daily, interim and final cover/capping.

Minimisation of Emissions to Surface Water:

- Landfill techniques, including minimising the active working face, are in place to minimise leachate generation;
- Daily and intermediate cover practices also minimise leachate generation;
- Adequate leachate storage facilities of raw leachate prior to removal from site; and
- Diversion and collection of uncontaminated storm water for discharge or appropriate use from lined areas awaiting waste placement.
- Regular cleaning of oil interceptors/settlement lagoons/silt traps to safeguard against potential pollution from oil spillage and vehicle washing
- Cut-off valves to contain run-off.
- Surface water drainage - any direct discharges to surface water or sewer must pass through a silt trap and oil interceptor beforehand. (European Standard prEN 858 - Installations for the separation of light liquids).
- Regular surface water monitoring at discharge points.
- Inspection of nearby surface water courses.
- Use of SCADA system;
- Use of appropriate restoration profiles; and
- Suitable landfill restoration and aftercare plans.

Minimisation of (Potentially Contaminated) Groundwater Emissions:

- Empty bunds regularly
- Groundwater monitoring;
- Settlement lagoons;
- Cut-off valves;
- Use of SCADA system;
- Use of appropriate restoration profiles; and
- Suitable landfill restoration and aftercare plans.

Fuels/Oil

- Bunded fuel/oil storage areas
- Regular integrity testing
- Staff training and spill kits
- Calibrate tank level indicators regularly
- Clearly label all tanks with contents
- Secure tanks against unauthorised access

Minimisation of Litter, Noise, vibration and Birds, etc

- Use of a sheltered face in windy conditions;
- Use of cover materials;
- Strategically placed mobile catch fences and permanent catch fences;
- Provision of perimeter planting/ landscaping to reduce wind impacts;
- Daily litter picking/nuisance inspections;
- Selection of equipment that conforms to EU Noise Standards;
- Use buildings to contain inherently noisy fixed plant and equipment;
- Prediction of noise impact at specified noise sensitive locations, using standardised sound power levels for construction plant;
- Fit silencers to equipment where necessary
- Limiting activities with noise potential to certain hours;
- Assessment of severity of noise impact on residential areas due to a new development;
- Occasional flying birds of prey over the site; and
- Using pest-control specialists to control vermin levels – pest control plan.