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[REDACTED]

The grate has been specifically designed for low net calorific value (NCV) Waste fuels and will therefore have the flexibility with respect to types of Waste that can be accepted by a traditional energy-from-waste plant. In particular, according to the firing diagram it will be able to economically accept Wastes with NCV between 7.0 MJ/kg and 13 MJ/kg.

The Key Facility will be capable of continuous operation without any reduction in Waste throughput or damage to the Key Facility with the ambient air temperature in the range of minus 10°C to plus 33°C when the Key Facility is in normal operation and turbine by-pass operation. The reference ambient temperature for the guarantees will be 15°C.

The gas clean up system on the Key Facility is able to achieve the projected standard in the Industrial Emissions Directive 2010/75/EU (IED) (which will apply to new installations after 06/10/13). Should the NO_x limits be significantly reduced, space has been allocated in the layout for the retrofitting of selective catalytic reactors. The Construction Sub-Contractor has confirmed that the appropriate space has been provided in its plant layout and that there would be no technical or physical impediment to retrofitting the selected catalytic reactors. The proposed flue gas treatment system already has the ability to meet the lower emissions limits specified by the IED and changes in regulatory requirements over the lifetime of the Key Facility can be met. If changes are required to accommodate significant changes in emissions limits, these can be implemented without any major impact on operations.

The Key Facility will be designed as combined heat and power (CHP) enabled. If a viable heating load can be secured, it may be configured as a CHP facility subject to agreement of terms and conditions. Space has been

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allocated for a heat station to accommodate heat supply equipment. The proposed layout will allow for the heat station to be expanded over time should the heat load available increase. The building for the heat station will be constructed at the same time as the Key Facility and if necessary can be fitted out at a later date without disruption to Key Facility operations. Connecting to the turbine steam extraction point would be made during a programmed outage and the associated steam and condensate pipework can be installed while the Key Facility is operating. Routes for the outgoing hot water pipework have been identified and will be preserved. If this pipework needs to be installed during the main construction work it will be programmed to avoid disruption to critical path works. Should the pipework be installed at a latter date the work will be carried out so as to avoid disrupting plant operations or waste deliveries. Subject to confirmation of heat load and location it is intended to install the hot water pipework during the main construction works.

MS 3.3a - *Contract Waste Composition*

[REDACTED]

[REDACTED]

MS 3.3b - *Volumes of Contract Waste*

[REDACTED]

[REDACTED]

MS 3.3c - *Legislation and Regulatory Standards*

The main piece of Legislation with which the Key Facility must currently comply is the Waste Incineration Directive 2000/76/EC (WID). This has been superseded by the IED, which will apply to new installations after 06/01/13. This will be transposed into UK law through the Environmental Permitting Regulations. These regulate the operation of energy from waste facilities and the emissions to air, water and land from the facility.

Guidance on the requirements of the WID is provided by the Environment Agency in Sector Guidance Note EPR5.01 and further guidance on best practice can be drawn from the European Reference Document on the Best Available Techniques for Waste Incineration 2006.

[REDACTED]

[REDACTED]

[REDACTED]

As part of preliminary dispersion modelling the Contractor has considered Fine Particles (PM2.5) using the Environment Agency agreed methodology in order to ensure the requirements of the forthcoming air quality limits that are due to come into force in 2015 will be met (arising from EU Air Quality Directive 2008/50/EC).

		Daily/Half hourly average values
Total Particulates	Mg/Nm ³	10/30
Carbon Monoxide	Mg/Nm ³	50/100
Hydrogen Chloride	Mg/Nm ³	10/60
Sulphur Dioxide	Mg/Nm ³	50/200
Oxides of Nitrogen expressed as NO ₂ (for SNCR)	Mg/Nm ³	200/400
Volatile Organic Compounds expressed as TOC	Mg/Nm ³	10/20
		Average values as measured over a sample period of 30 minutes and 8 hours maximum
Cadmium and Thallium	Mg/Nm ³	0.05 (sample)
Mercury	Mg/Nm ³	0.05 (sample)
		Average values as measured over a sample period of 6 hours minimum and 8 hours maximum
Other metals: Sb, As, Pb. Cr. Co. Cu. Mn, Ni, V	Mg/Nm ³	0.5 (sample)
Dioxins and Furans	Ng(TEQ)/Nm ³	0.1 (sample)

Figure 3.3-1, Emissions Performance

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The Works will be designed such that they strictly comply with the statutory requirements laid down by the U.K. health and safety regulations, the IED and with the obligations resulting from the Environmental Permit.



The Key Facility produces three secondary materials namely bottom ash, recovered ferrous metal and air pollution control residues (APCR). Bottom ash and ferrous metal is recycled and APCR are treated as Waste, pre-treated and then disposed of to landfill.

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