FICHTNER
Consulting Engineers Limited

Viridor South London Limited

Beddington ERF and WTS

Response to additional queries

1 Question 1

- **You have not demonstrated how the throughput capacity at the tipping hall is sufficient. You have only mentioned that a buffer was built into the design of the tipping hall, but have not provided any figures to demonstrate this.**
- **You have not demonstrated how the throughput capacity within the bunker is sufficient, only that buffer storage capacity was designed into the bunker, but no specific figures on capacities has been provided.**
- **You have not demonstrated how the emissions abatement equipment is sufficiently sized, only that an operational buffer has been designed into the equipment, but no specific figures on the designed treatment/flow rates.**

For the above you need to demonstrate that each stage of the process is sufficiently sized. For example this could be shown through the original design calculations/specifications for that process/piece of equipment.

The maximum annual throughput proposed within the application is a theoretical maximum derived from the top right-hand corner of the firing diagram (the 110% point – refer to Figure 1). The maximum annual throughput allows contingency in the future operation of the ERF, for example the average NCV of waste continuing to drop over time. The maximum annual throughput proposed within the application also allows for an increased availability, to allow flexibility in maintenance periods being scheduled e.g. every 18 months. It should be acknowledged that the ERF may not operate at the 110% point all the time.

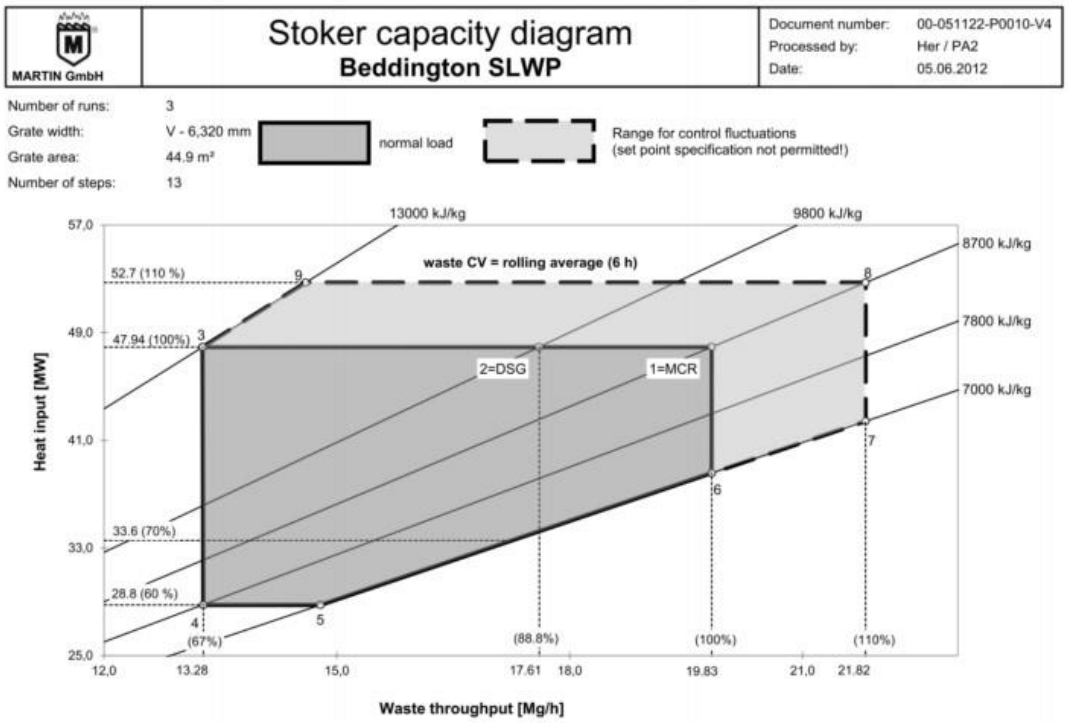

Figure 1: Firing diagram

The ERF has been designed and is operated to accommodate all operating scenarios under the firing diagram. This is explained/demonstrated in further detail below, in relation to the specific points raised by the EA.

The tipping hall has 7 waste tipping bays. Currently, around 7 waste deliveries are received each hour (averaged over a 24-hour period), assuming operation at the design point. At any one time, during normal operations, up to 4 tipping bays are typically in use at any one time. As described in the Schedule 5 response, operation at the maximum hourly throughput allowed for by the firing diagram is only expected to result in up to 1 additional waste delivery each hour compared to operation at the 'design' throughput. Taking this into consideration, and the fact that the ERF is not likely to operate at the maximum hourly throughput all the time due to fluctuations in NCV, Viridor can confirm that the design of the tipping hall allows for operation at the higher throughput.

In order to maintain thermal output, when the NCV of waste is lower, the plant must process a greater amount of waste each hour (i.e. waste with a lower NCV is fed into the plant more quickly). When the NCV of waste is higher, the plant processes less waste each hour to maintain the required thermal output. The amount of waste stored within the waste bunker depends on the dynamic supply and demand of waste. For example, leading up to holiday periods (such as Christmas), the amount of waste stored within the bunker is 'built up', so that the ERF can continue to operate and process waste when no waste deliveries are occurring. The proposed increase in throughput is not expected to necessarily result in greater quantities of waste being stored in the bunker, and operation at a higher hourly throughput would result in more waste being processed each hour. For reference, the maximum storage capacity of the bunker is 4,194 tonnes – waste storage levels from previous operational experience typically reach up to 2,500 tonnes, thereby demonstrating that sufficient 'buffer room' is maintained within the waste bunker during operations.

The Air Quality Assessment submitted with the application assessed at the top right-hand corner of the firing diagram (at 110% thermal capacity). Operation at this point on the firing diagram results in the highest flue gas flow rate. However, the gas flow rate is not the main metric for the emissions

abatement system, which is primarily led by upstream Raw Gas analysers. Testing has been completed by Viridor at various points on the firing diagram and the capacity in the system was seen to be very resilient to changing waste composition and adapts easily to changes in flue gas flow rate. To summarise, this testing has demonstrated that the emissions abatement system is capable of handling all operating scenarios across the firing diagram, and is therefore 'sufficiently sized' for the proposed increase in waste throughput.

2 Question 2

Waste acceptance criteria – section 2.1 of this document needs to be updated to reflect the consolidated permit and the new tables of waste in this updated permit

An updated waste acceptance protocol is provided within Appendix A to reflect the correct document references in the updated permit.

Viridor requests that the EA acknowledges that the procedure submitted previously with the Schedule 5 response (the 'current' procedure) referring to the existing permit references will remain in place up until the point that the final permit is granted.

A Updated Waste Acceptance Protocol