

SCHEDULE 5

Construction Completion and Acceptance Tests

1. Construction completion

1.1 Not less than 10 Business Days prior to undertaking any Acceptance Tests relevant to the New Waste Treatment Facility, the Contractor or the Construction Contractor shall provide to the Independent Certifier the following documents for the various systems or parts of the New Waste Treatment Facility:

1.1.1 as constructed general arrangement, section and elevation drawings;

1.1.2 as constructed process & instrumentation drawings ("**P & IDs**");

1.1.3 process operating standards; as agreed with the Independent Certifier; and

1.1.4 as constructed electrical single line diagrams.

2. Waste for commissioning

Prior to commencement of the Acceptance Tests of any part of the New Waste Treatment Facility, the Contractor shall ensure that:

2.1.1 the Sinfin Site is properly secure and the weighbridge has been installed and operational and authorised by an inspector as fit for use in accordance with Section 11 of the Weights and Measures Act 1985;

2.1.2 the relevant part of the New Waste Treatment Facility is capable of receiving Contract Waste in accordance with the conditions stated in the Necessary Consents; and

2.1.3 the relevant part of the New Waste Treatment Facility is capable of treating Contract Waste in accordance with the process operating standards.

2.2 The commissioning shall be carried out as part of the Construction Contractor's scheduled orderly commissioning process, and prior to any commissioning the Contractor shall submit to the Independent Certifier for review full details of the commissioning programme and associated commissioning procedures and tests.

2.3 The Contractor shall notify the Councils of any requirement it may have for the Contract Waste to be delivered in accordance with **Schedule** 17 (Waste Reception Protocol) to the New Waste Treatment Facility no less than 10 Business Days prior to requiring delivery of such Contract Waste. Such notification shall comprise, as a minimum a schedule of required tonnages and dates of delivery for the period up to the NWTF Completion Date.

3. Acceptance Tests

3.1 The Contractor shall notify the Councils no less than 20 Business Days prior to the proposed date for any Acceptance Test, that the relevant part of the New Waste Treatment Facility will be in a condition to proceed with the Acceptance Tests, providing such evidence to the Independent Certifier as is reasonably necessary to demonstrate that the conditions at **paragraphs 2.1.1 to 2.1.3** of

this **Schedule 5** have been met. When the Independent Certifier is satisfied that the conditions are met then the Independent Certifier shall confirm this in writing within 1 (one) Business Day to the Contractor and the Contractor shall proceed with the Acceptance Tests from the proposed date.

3.2 The Contractor shall conduct Acceptance Tests in relation to the following relevant parts of the New Waste Treatment Facility, and provide evidence to the satisfaction of the Independent Certifier to demonstrate that the requirements of each of the relevant Acceptance Tests have been met:

3.2.1 reception hall and other aspects of the New Waste Treatment Facility which are necessary for the operation of the reception hall, including the Weighbridge;

3.2.2 MBT Facility incorporating the Entsorga Technology;

3.2.3 ACT Facility incorporating the Energos Technology, including pre-processing lines and recyclable recovery; and

3.2.4 education facility.

3.3 The Acceptance Tests for each part of the New Waste Treatment Facility (excluding the education facility) are as follows:

3.3.1 Lawful operation:

3.3.1.1 the relevant part of the New Waste Treatment Facility complies with all applicable Legislation and Planning Permission (relevant to the New Waste Treatment Facility) has been granted and remains valid; and

3.3.1.2 the relevant part of the New Waste Treatment Facility is entitled to operate lawfully and accept Contract Waste (subject to **Schedule 17** (Waste Reception Protocol)) such that an appropriate Permit for the nature and the scale of the New Waste Treatment Facility is in place.

as determined in accordance with Tests 3 and 9 of Annex 1 to this **Schedule 5**.

3.3.2 Emissions:

3.3.2.1 Emission levels shall be limited to those stated in Necessary Consents, as determined in accordance with Test 3 of Annex 1 to this **Schedule 5**.

3.4 The Acceptance Tests for the education facility are as follows:

3.4.1 the facility complies with all applicable Legislation and Planning Permission (relevant to the education facility) has been granted and remains valid as determined in accordance with Test 9 of Annex 1 to this **Schedule 5**; and

3.4.2 the facility has been completed in accordance with the Works Delivery Plan as determined in accordance with Test 8 of Annex 1 to this **Schedule 5**.

3.5 In addition the following Acceptance Tests shall subject to **clause 21.3** (Turbine Delay) be run following completion of all parts of the New Waste Treatment Facility:

3.5.1 the New Waste Treatment Facility shall be capable of achieving the NWTF Diversion Tonnage Target, as determined in accordance with Tests 1, 2, 5, 6 and 7 of Annex 1 to this **Schedule 5**;

3.5.2 the New Waste Treatment Facility shall be capable of achieving the NWTF Recycling and Composting target, as determined in accordance with Tests 5 and 7 of Annex 1 to this **Schedule 5**;

3.5.3 the Turbine shall be capable of producing and exporting electricity to the grid, as determined in accordance with Test 4 of Annex 1 to this **Schedule 5**.

In the event of any Turbine Delay the tests detailed in **paragraphs 3.5.1 and 3.5.2** above may proceed ahead of the completion of the Turbine.

3.6 If any of the Acceptance Tests are not satisfied because of the presence of heavy metal gaseous emissions in excess of the requirements stipulated by any applicable Legislation, Necessary Consents or the requirements of the Environment Agency (Excess Heavy Metal), then the Independent Certifier shall request from the Contractor provision of appropriate evidence to demonstrate that the failure was not related to either:

3.6.1 a failure in the operation of the NWTF; or

3.6.2 a technical failure in any element of the NWTF.

3.7 If the Independent Certifier is satisfied that the information provided reasonably demonstrates that the NWTF was not the cause of Excess Heavy Metal the Independent Certifier shall issue the Completion Certificate.

4. **Completion**

When the Acceptance Tests in relation to the New Waste Treatment Facility have been met to the satisfaction of the Independent Certifier, the Independent Certifier shall, subject to **clause 21.3** (Turbine Delay) issue a Completion Certificate in accordance with **clause 21**.

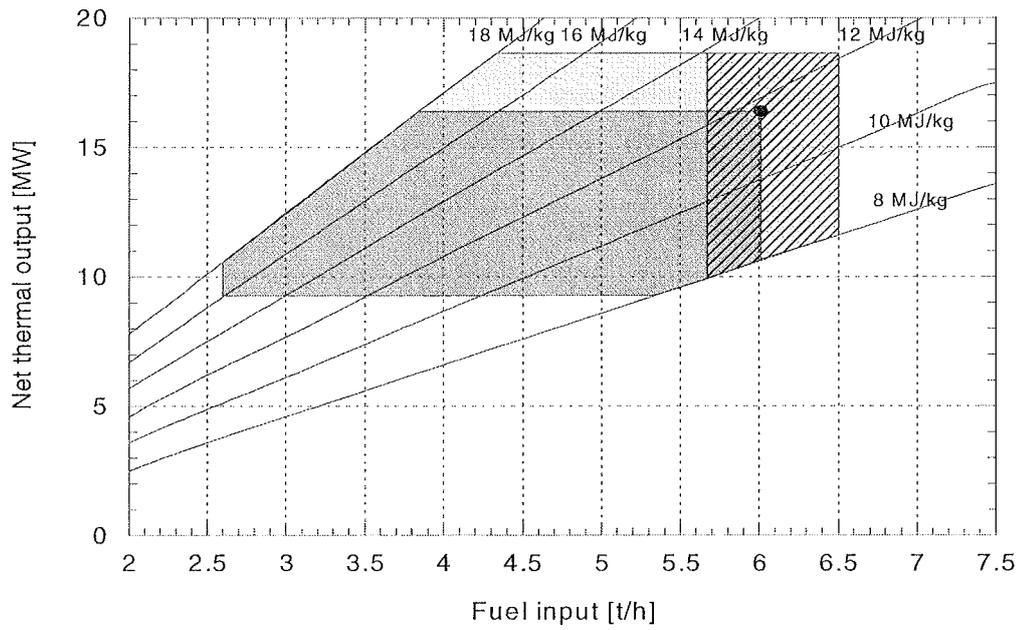
ANNEX 1 – ACCEPTANCE TESTS

The following tests must be satisfied during a 14 day period of operation of the NWTF (the "**14 Day Period**"):

Test Number	Details of Test
1	<p>The average waste throughput for each ACT line must be >90% of the designed maximum feed rate of 6te/hr (ie, 5.4te/hr) or if CV>11.7MJ/kg such lower feed rate (x90%) as interpolated from the firing diagram attached at Annex 2 to this Schedule 5.</p> <p>For a continuous period of 8 hours during the 14 Day Period each line must operate simultaneously and to the satisfaction of the IC at 6 t/hr. Throughput to be measured via load cells on the grab cranes feeding the ACT. The load cells will be calibrated before and after the test period (using calibration weights that can be brought into the ACT Hall by lorry) to ensure accuracy of measurement.</p>
2	<p>Each ACT line must run for a total of 299 hours in the 14 Day Period (89% of total hours in 14 days). Continuous readings of the ACT availability and performance will be provided by the control system.</p>
3	<p>Subject to paragraphs 3.6 and 3.7 of Schedule 5, emissions must be within limits required by the Industrial Emissions Directive, the Environmental Permit and Necessary Consents. For compounds not sampled by the plants standard emissions monitoring system (Continuous Emissions Monitoring System (CEMS)), each line will be sampled during the first 3 days of the 14 Day Period. Results will be sent for analysis by an appropriately accredited independent laboratory. Compliance with all other requirements set out in the Environmental Permit must also be demonstrated by this test.</p>
4	<p>The IC must be satisfied that the turbine has demonstrated that it has generated electricity using steam from the ACT modules and has exported it to the grid.</p>
5	<p>Pre-processing and MBT equipment will have to demonstrate performance in excess of the following levels:</p> <p>Overband magnets – aggregate of 79.2% of ferrous material (being objects with >60% ferrous content by weight) removed by weight from the aggregate ferrous metal content of input waste presented to overband magnets.</p> <p>Eddy current separators - aggregate 73.8% of non ferrous metal removed by weight from the aggregate non ferrous metal content of input waste presented to eddy current separators.</p> <p>NIRs – aggregate of 72% of targeted dense plastics material (being objects with >60% targeted dense plastics content by weight, and >50mm in two dimensions) removed by weight from the aggregate targeted dense plastics content of input waste presented to NIRs (excluding non-detectable black coloured materials).</p>
6	<p>The moisture of material leaving the biodrying hall shall be no greater than 75% of the moisture content of material entering the biodrying hall, to be</p>

	<p>demonstrated by comparison of the average moisture content of three input and three output samples, (some of which may be taken prior to the 14 Day Period), such sampling being repeated as necessary on any failure of the test. As an example of the test result calculation: the average moisture content of three 1 kg samples of input material is 300g and the same for three corresponding 1kg output material samples 14 days later is 225g, then the moisture content of the output material is 75% (225/300) of the input material and passes this test.</p>
7	<p>Availability of pre-processing and MBT equipment to be:</p> <p>95% for MBT based on 24/7 operation; and</p> <p>92% for preprocessing equipment being 124hrs of the total 135hrs of planned operational time at 13.5hrs per day for 10 days (whether consecutive or not) of the 14 Day Period. This measurement of planned operational time excludes time for routine cleaning, start up and shutdown procedures (2.5 hours per day out of 16 hour day), but shall include time for interruptions due to equipment failure.</p> <p>Where for the purposes of this Schedule 5:</p> <p>“MBT” shall mean all fixed equipment downstream of the trommel and upstream of the dried material outlet hopper necessary for the bio-drying of Waste, including, but not limited to, the overhead cranes, fans and associated ventilation system, bio-filter, control system, and leachate system; and</p> <p>“Preprocessing equipment” shall mean all fixed equipment necessary for the processing of Waste into fuel and the recovery and export of targeted recyclates, including, but not limited to, the trommel upstream of the MBT, the fuel export equipment, control system, and associated dust management system.</p>
8	<p>The education facility must be complete in accordance with the Works Delivery Plan. If required, the IC will be able to carry out the inspection of the education facility prior to the 14 Day Period.</p>
9	<p>The IC must be satisfied that the NWTF, including the education facility, has been granted an appropriate Planning Permission and Environmental Permit, which both remain valid, and that relevant conditions have been discharged. The IC must also be satisfied that the NWTF complies with requirements set out in the relevant Planning Permission and Environmental Permit, and otherwise complies with applicable Legislation.</p>

ANNEX 2 – FIRING DIAGRAM



-  Maximum fuel moisture content is 60% for a fuel consumption less than 5.67 t/h. The maximum fuel moisture content decrease linear from 60% at 5.67t/h to 35% at 6.5t/h.
-  Normal operating area
-  Margin for transient operation only.