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20th April 2016

Kevin Ashcroft
Senior Permitting Officer
Natural Resources Wales
Cambria House
29 Newport Road
Cardiff
CF24 0TP

CRM 083 002 PE L 040

Dear Kevin

Re: Schedule 5 dated 10/03/2016
Permit Reference Number: EPR/GB3490HG/A001
Facility: Nine Mile Point Waste Processing Facility
Operator: Hazrem Environmental Limited

We have reviewed the Schedule 5 Request for Information dated 10th March 2016 and provide responses below to each question. Where referenced, supporting information has also been supplied in the attached documents.

The purpose of the facility is to divert waste materials away from landfill by separating them for recycling, drying, bailing and wrapping so they can replace fossil fuels as a source of fuel in the form of refuse derived fuel (RDF) or solid recovered fuel (SRF). No incineration will be undertaken at the facility.

Due to the uncertainty around the contents of Fire Prevention Plans guidance document after the recent public consultation and the fire tests which are currently being carried out with the aim of gathering scientific evidence to support future guidance, we would like to request that the requirement for a fire suppression system be added as a pre operational condition. The new guidance is to be published in Spring 2016 according to the Environment Agency's consultations page. Nine Mile Point Waste Processing Facility will not have started construction when the new guidance is issued so this will give the operator the chance to meet the new requirements of the guidance document and ensure the fire suppression system is compliant with NRW's requirements.

We trust that you are now able to proceed with the permit determination process, however please contact me on 01454 269237 or via steph.charnaud@enzygo.com should you have any queries.

Yours sincerely

Stephanie Charnaud.

Steph Charnaud
Senior Consultant

Table 1: Responses to Schedule 5 Request for Information

Ref	Question	Response
Risk Assessment		
1	Section 1.1.4 of the risk assessment states that 'no handling operations will take place on Sunday's or public holidays', yet the site will be operational 24 hours a day 7 days a week. **Please clarify what is meant by 'no handling operations will take place'**	The site will be operational 24 hours a day 7 days a week however waste will not be received on Sundays or public holidays as stipulated in the Planning Decision Notice where deliveries are limited as follows: Waste will be delivered to the site during the following operational hours: • Monday – Friday 07:30 – 18:30 • Saturday 07:30 – 13:00 • No deliveries will take place on Sundays or Public/Bank Holidays. The operational activities are limited to operation of the dryer and waste processing equipment.
2	Section 2.4.5 states that the Regenerative Thermal Oxidiser (RTO) will reduce up to 100% of odour emissions. **Please clarify the typical percentage reduction of odour emissions expected from this RTO under normal operating conditions.**	RTO's are known to provide very high odour abatement and in this case the odour reduction will be between 95-100% as stipulated by the manufacturer, however this is typically closer to 99%+ abatement efficiency.
3	**Please clarify how odour will be controlled from this installation when the RTO is not in operation.**	The RTO will operate continuously. Please see table 6 in Appendix C Air Quality and Odour Assessment. Waste processing activities will cease should abatement equipment fail to operate. Critical spares will be kept on site in the event and a service agreement will be in place to ensure that the RTO will be brought back in line in 24 hours in the event of breakdown.
4	Section 2.7.6 states that any liquor generated within the waste reception building will be directed to foul sewer. **Please clarify what wastes are expected to generate liquor and please justify the suitability of these waste**	Liquor/leachate can be produced by biodegradable wastes as they degrade. Whilst the storage times of unprocessed wastes on site is 24 hours so degradation is unlikely, wastes could be delivered to site in a partially degraded state and when tipped liquor or leachate may be released onto the floor of the waste reception building. The proposed list of waste codes contains codes such as 20 03 01 which are mixed municipal wastes which are accepted as being suitable for the production of RDF and SFR but could contain biodegradable materials. Other proposed wastes have the potential to generate liquor include 02 01 03, 02 01 07, 03 01 01, 03 01 05, 03 03 01, 03 03 07, 19

	types for turning into a fuel.	02 03, 19 02 10, 20 03 02, 20 03 03. Theses wastes are accepted as being suitable for turning into a fuel as they have a high calorific value and appear in the list of waste codes in other permits for RDF/SRF production facilities.
5	2.12.5 provides details of the calorific value of both types of fuel produced. **Please provide details of how these figures were derived**	These figures were based on Hazrem Environmental Limited Process Flow Mass Balance data sheet attached.
6	Table 1 of the risk assessment states that highly odorous waste will be stored for less than 24 hours. **Please clarify what actions and control measures will be in place if highly odorous waste is found to be received and what actions and control measures will be used to ensure that it is removed within 24 hours.**	Wastes are delivered to the waste reception building which is fitted with fast acting roller shutter doors and is kept under negative pressure with three air changes per hour. These measures will reduce the likelihood of odours being emitted from the facility. If pre acceptance checks determine that the waste is highly odorous then the load will not be accepted onto the facility. If the odorous nature of the waste is not determined until it has been tipped in the waste reception building, the waste will be either reloaded onto the delivery vehicle and removed off site or separated from the main waste storage pile and prioritised for processing as soon as practicably possible within 24 hours in any instance.
7	Table 1 – odour from failure of the plant. **Please clarify what procedures will be in place in the event of plant failure**	In the case of failure of the plant the doors will remain closed. The cause of the failure will be investigated and rectified. If there is a risk of odour from the plant waste will not be accepted until the plant failure have been rectified. Critical spares parts will be held onsite and staff will be trained in appropriate maintenance procedures to ensure that plant failures are rectified in a timely manner.
8	Appendix B, Caerphilly weather station information. The average air temperature looks high. **Please verify the representativeness of the Caerphilly weather station information.**	Upon review of Met Office data, Bedwas is the closest weather station however results are virtually identical to Caerphilly (see comparison in Figure 1 below). It is considered that either weather station provides appropriate temperature levels for the area surrounding Nine Mile Point Industrial Estate. The average air temperature at the Bedwas weather station is 14.7°C which is the same as the average temperature at Caerphilly weather station. When comparing this information to the average temperature data given for the Caerphilly Weather Station on windfinder.com, 13 °C the average temperature given on windfinder.com is actually slightly less, than that provided by the Met Office data. This difference may be due to the fact that the Met Office data is only available up to 2010.
Operating Techniques		
9	The Operating Techniques document	Please see updated OTMP attached.

	has been compiled with reference to Sector Guidance Note SGN 5:06 'Guidance on the Recovery and Disposal of Hazardous and Non Hazardous Waste', 2004. This version has been superseded by a revised version taking into account the Industrial Emissions Directive (2010/75/EU) published 2013. As a result, several sections throughout the document refer to incorrectly numbered sections. **Please provide a revised version of the Operating Techniques and Monitoring Plan document in accordance with the correct version of SGN 5:06.**	
10	Table 1.3.3 states that 100,000 tonnes per annum, equates to 397 tonnes per day based on 252 operational days per year. If the site receives waste for 5.5 days per week throughout the year this equals 278 days excluding public holidays. This would mean that the treatment capacity is 360 tonnes per day. **Please explain your calculations.**	The calculations given were incorrect. These were based on the original plans for the site, which were to receive waste 5 days per week. The treatment capacity is 360 tonnes per day. This has been corrected in the updated OTMP.
11	Section 2.1.7 which talks about pre-acceptance procedures does not request from all customers the composition of the waste, handling requirements, hazards, quantity and form of the waste prior to the waste being accepted. **Please explain this omission.**	These elements are now included in the updated OTMP.

12	Section 2.2.4 states that the waste may be accepted for disposal. **However, no disposal codes have been included with the application. Please clarify if wastes will be accepted for disposal.**	Wastes will not be accepted for disposal. This should read accepted at the facility. This has been corrected in the updated OTMP.
13	The waste reception building will be fitted with roller shutter doors and kept under negative pressure. **Please confirm how this negative pressure will be maintained when the doors are open.**	Variable speed fans will be installed which have sufficient capacity to serve the main building when the doors are both closed and opened. The speed of the extraction fans within the building will be increased when the roller shutter doors are open to ensure air is drawn into the building rather than escaping from the building.
14	**Please clarify if drainage from the baled RDF will drain via foul sewer**	SRF will make up the majority of the baled waste and will be passed through the dryer before baling. The baled RDF is not considered to be a wet waste and moisture levels post-processing are expected to be minimal. The bales will be wrapped 5 times and inspected daily for splits and tears. If any splits or tears are identified the bale will be removed from the storage area and re-wrapped. Therefore, the baled wastes are not expected to release any liquor outside of the packaging materials.
15	**Please confirm the proposed technical competence qualification which it is proposed will be undertaken should a permit be granted.**	Production of solid fuel from waste – involving use of heat is listed as an activity on WAMITAB's risk tier table, however no qualifications are listed alongside this entry. WAMITAB confirmed that NRW should supply this information. NRW's Installations Officer, David Willey, confirmed that in this case the qualifications for the treatment of non-hazardous waste should be used. Using the Risk Tier Table (Qualifications Available from 1st April 2016) the TCM will be required to obtain WAMITAB Level 4 Medium Risk Operator Competence for Non-Hazardous Waste Treatment and Transfer.
16	**With regards to the list of wastes provided, please provide a description of the wastes proposed under the following waste codes in the table below and please clarify the suitability as a fuel for each waste type in the table.**	The purpose of this plant is to divert wastes away from landfill. The wastes processed at the plant will be transported off-site to be used as an alternative fuel to fossil fuels. See Table 2 below. **Please note that for clarity, whilst incineration is described as an end use for the wastes accepted onto site, <u>no incineration will take place at the facility.</u>**
Odour Management Plan		
17	Section 1.5.5 describes sensitive receptors as places where people are	This definition can be found in many of the Standard Rules Permits e.g. SR2012 no3, SR2012 no7. '*"nearest sensitive receptor" means the nearest place to the permitted activities*

	likely to be present for more than 6 hours at any one time. **Please clarify where this definition is derived from.**	*where people are likely to be for prolonged periods. This term would therefore apply to dwellings (including any associated gardens) and to many types of workplaces. We would not normally regard a place where people are likely to be present for less than 6 hours at one time as being a sensitive receptor. The term does not apply to those controlling the permitted facility, their staff when they are at work or to visitors to the facility, as their health is covered by Health and Safe.'*
Site Condition Report		
18	Plans showing the following are missing; - Details of Site Surfacing - Details of Site Drainage - Details of Receptors - Emission Points and Sources - Monitoring Points.	See attached plans. Details of the site surfacing, site drainage, emissions points, sources and monitoring points sources can be found on CRM 083 002 PE D 003 Site Layout for Permit Application Details of the sensitive receptors can be found on CRM 083 002 PE D 004
Fire Prevention Plan		
19	For large heavy material the estimated flammable portion is 4.59T. **Please explain how this figure have been derived.**	As stated in the OTMP the heavy material consists of items such as bricks, glass, wood and a potentially a small amount of food waste. The company who provided the proposal, MachineX have advised that wood, being the main combustible component, will make up around 6.5% of the heavy materials based on the proposed inputs.
20	Section 2.2.12 states that the exact sizes of storage bays has not yet been confirmed. Storage bay sizes should be included in detailed designs of the proposed site drawn up by the architects.	Please see revised Fire Prevention Plan
21	Table 2.2.12 shows sizes for fridges, computers, electrical equipment and fragmentiser fluff. However, no waste codes have been provided for these. **Please confirm if these waste types will be received or not and provide the relevant waste codes for consideration if applicable.**	Waste code 19 10 04 appears in the proposed list of wastes in the OTMP. This waste code is for wastes from shredding metal containing waste, fluff-light fraction and dust. This would cover fragmentiser fluff. Fridges, computers and electrical equipment are not being accepted. This table is just a copy of table 1 in the Environment Agency's guidance 'Fire Prevention Plans'. These waste types have been removed from the table in the updated Fire Prevention Plan.
22	Section 3.2.2 States that a fire response procedure is incorporated into the	Please see revised Fire Prevention Plan. Appendix E

	Management System. **Please provide proposed details of the fire response procedure.**	
23	Section 3.4.10 states that a dedicated emergency or quarantine area will be provided. **Please confirm the size of this area and its location.**	Please see revised Fire Prevention Plan. The quarantine area is located to the north of the site. It is sized to contain the largest pile of waste which is 750m³ and is surrounded by a 10m exclusion zone.
24	**Please also confirm separation distances between plant and combustible material if the site is not staffed.**	The site will be staffed 24 hours a day 7 days a week.
25	Section 3.5.6 states that the temperature monitoring methods and frequency will be agreed locally with NRW/FRS. Details of these procedures will need to be agreed as part of our assessment of the application. **Please provide details.**	Please see revised Fire Prevention Plan
26	In the section 'actions in the event of a fire' there are no details about fire water containment. **How will fire water be contained if a fire occurs on site?**	Any run off from external firefighting will be directed via interceptors to the surface water crates. Under normal circumstances the water would then pass at a controlled rate to the off-site surface water drainage system. In the case of a fire the lock of valve would be closed retaining any fire water within the crates and allowing for it to be recirculated for reuse in the fire fighting efforts. Please see revised Fire Prevention Plan
27	**Please confirm how much separation will be maintained between baled RDF/SRF material and the site perimeter.**	Please see revised Fire Prevention Plan A minimum of 6 metres will be maintained between the baled SRF/RDF and the site perimeter.
28	As waste will be stored up to the maximum capacities outlined in the fire prevention plan guidance, a deep seated fire could occur. Please provide details to demonstrate that the fire suppression system would be effective at tackling these fires.	The only waste type which will now be stored up to capacity is baled RDF/SRF. The recyclable fractions will be stored in 35m³ skips. Hand held infrared heat sensors will be used to monitor for hot spots in the baled RDF/SRF. This monitoring will be undertaken at the beginning of each shift and in compliance with the Fire Prevention Plan guidance will monitor at least 10% of all bales onsite. Records of monitoring will be kept.
29	No details have been provided relating to	Please see revised Fire Prevention Plan

	turning and monitoring of piles. **You must explain what triggers you will use in relation to temperature and moisture content and the escalation of actions in relation to these triggers.**	Should monitoring of combustible waste piles by the hand held infra-red heat sensor detect hot spots in the waste of more than 10°C above ambient temperatures waste piles will be turned or bales removed from the bale storage area. The temperature of the baled RDF/SRF will be monitored at the start of each shift. Records with the details of monitoring will be maintained. See Fire Prevention Plan.
30	The site plan submitted in support of the application does not show everything required for fire prevention plans.	Please see attached drawings. CRM 083 002 PE D 003 and CRM 083 002 PE D 005

Figure 1: Met Office Weather Data

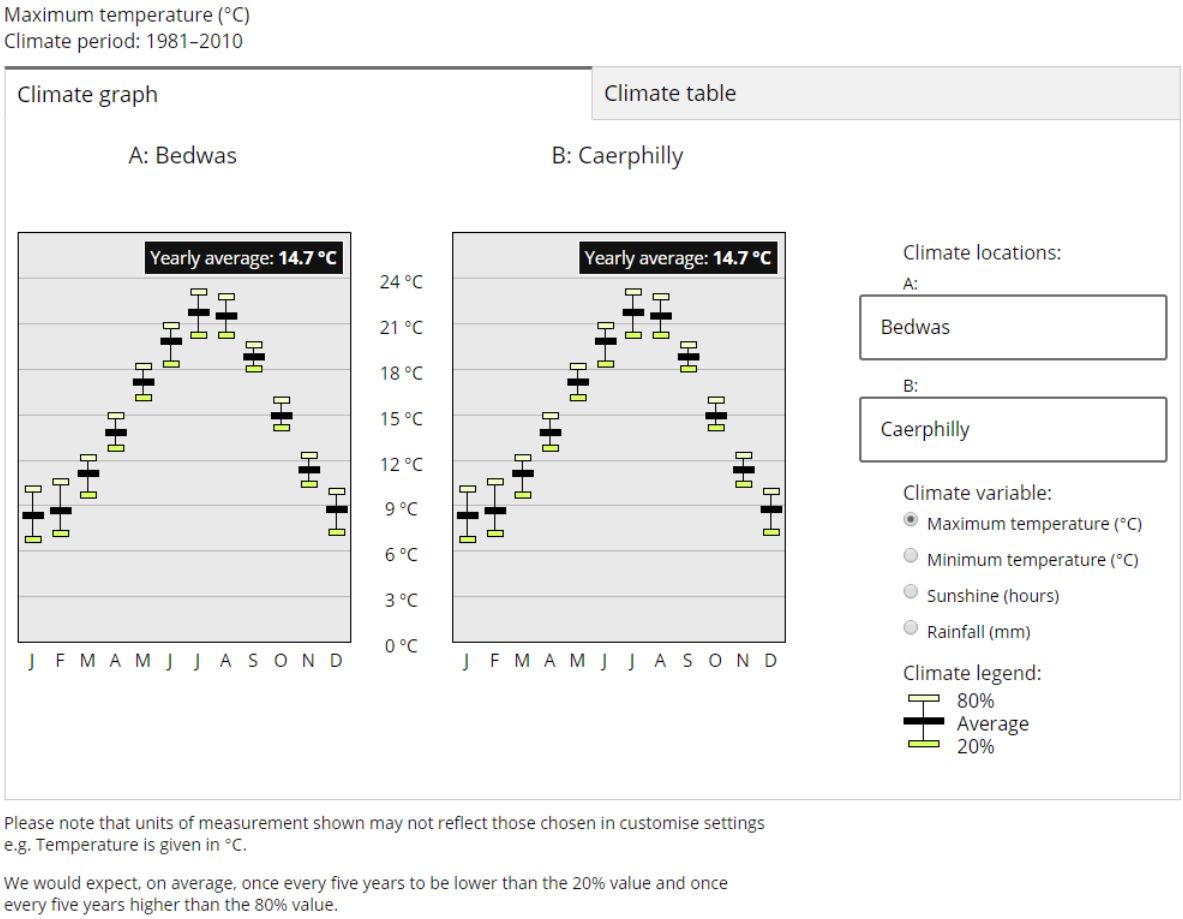

Table 2: List of Wastes

EWC code	Description of waste	Proposed Wastes Received	Suitability as a Fuel
02 03 02	wastes from preserving agents	Please remove this waste code	N/A
02 03 03	wastes from solvent extraction	Please remove this waste code	N/A
02 03 04	materials unsuitable for consumption or processing	Please remove this waste code	N/A
02 05 01	materials unsuitable for consumption or processing	Please remove this waste code	N/A
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials	Please remove this waste code	N/A
02 07 04	materials unsuitable for consumption or processing	Please remove this waste code	N/A
09 01 07	photographic film and paper containing silver or silver compounds	Please remove this waste code	N/A
09 01 10	single-use cameras without batteries	Please remove this waste code	N/A
16 01 22	Discharged components not otherwise specified	Please remove this waste code	N/A
17 05 04	soils and stones other than those mentioned in 17 05 03	Please remove this waste code	N/A
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	Mixed skip waste (not containing soil and stones). Solids wastes similar to black bag wastes.	Wastes taken under this code will be similar to those taken under 20 03 01. They will consist predominately of wastes produced by the workers at the construction facility rather than the construction process itself. Therefore, they will be similar in calorific value to 20 03 01 once the recyclable elements have been removed.
19 10 06	Other fractions other than those mentioned in 19 10 05	Please remove this waste code	N/A
19 12 09	minerals (for example sand, stones)	Please remove this waste code	N/A
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01	Please remove this waste code	N/A

EWC code	Description of waste	Proposed Wastes Received	Suitability as a Fuel
20 02 03	other non-biodegradable waste	Solid waste such as black bag waste, plastics	The wastes being taken in under this code are very similar to those under 20 03 01. Page 10 of Defra's 'Incineration of Municipal Waste' February 2013 guidance states 'Raw MSW typically has an energy content of 8-11MJ/kg, whereas RDF can have an energy content of 12-17MJ/kg. Typically, where raw MSW is processed into an RDF the increase in the energy content of the RDF is achieved due to the drying of the waste (removal of water) and the removal of inert recyclables (glass, metals) and other inert materials (stones etc.), which do not contribute to the energy content of the waste. Therefore, the remaining material to be processed into RDF (or SRF) mainly comprise wastes with significant energy content, plastics, dried biodegradable materials, textiles etc.' As described in the permit application documents Nine Mile Point Waste Processing Facility will be removing recyclable material from the wastes which it imports into the site leaving only wastes with significant energy content for the production of RDF and SRF. **No incineration will take place at the facility**
20 03 03	Street-cleaning residues	Street Sweepings e.g. litter, glass, plastics, cans	The wastes being taken in under this code are very similar to those under 20 03 01. Page 10 of Defra's 'Incineration of Municipal Waste' February 2013 guidance states 'Raw MSW typically has an energy content of 8-11MJ/kg,

EWC code	Description of waste	Proposed Wastes Received	Suitability as a Fuel
			whereas RDF can have an energy content of 12-17MJ/kg. Typically, where raw MSW is processed into an RDF the increase in the energy content of the RDF is achieved due to the drying of the waste (removal of water) and the removal of recyclables (glass, metals) and inert materials (stones etc.), which do not contribute to the energy content of the waste. Therefore the remaining waste going into the RDF (SRF) mainly comprise wastes with significant energy content, plastics, dried biodegradable materials, textiles etc.' As described in the permit application documents Nine Mile Point Waste Processing Facility will be removing recyclable material from the wastes which it imports into the site leaving only wastes with significant energy content for the production of RDF and SRF. No incineration will take place at the facility.
20 03 07	bulky waste	Mattresses, carpets, furniture	According to WRAP's document '*Demonstrating the viability of collecting non-clothing textiles'* carpets have a high calorific value due to their bitumen backing. It is used fairly extensively to generate energy from waste. Carpet mixtures can have a CV of ~23MJ/kg according to Carpet Recycling UK. The Department of Resources Recycling and Recovery in California completed a Mattress and Box Spring Study which gives the calorific values of the components of mattresses. Where present the metal

EWC code	Description of waste	Proposed Wastes Received	Suitability as a Fuel
			components will be removed however the calorific value of the other components e.g. wood, polyurethane flexible foam, polyester fibre, cotton fibre range from 18.55 to 23.78 MJ/kg. This makes them ideally suited to energy applications. The furniture which will be accepted onto site will consist of wood, textiles and plastic. All of which are commonly included in RDF/SRF due to their calorific values.