

Natural Resources Wales permitting decisions

Decision document recording our decision-making process

The application number is: PAN-000061

The Applicant / Operator is: Hazrem Environmental Limited

The Installation is located at: Nine Mile Point Waste Transfer Facility
Nine Mile Point Industrial Estate
Cwmfelinfach
Caerphilly
NP11 7HZ

What this document is about

This is a draft decision document, which accompanies a draft decision on the above application.

It explains how we have considered the Applicant's application, and why we have included the specific conditions in the draft permit we are minded to issue to the Applicant (hereafter referred to as the Operator). It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. Unless the document explains otherwise, we have accepted the Operator's proposals.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Preliminary information and use of terms

We gave the application the reference number PAN-000061. We refer to the application as “the **Application**” in this document in order to be consistent.

The Application was considered to be duly made as of 13th November 2015.

The Applicant is Hazrem Environmental Limited. We refer to Hazrem Environmental Limited as “the **Applicant**” in this document. Where we are talking about what would happen if the draft permit was to be granted, we call Hazrem Environmental Limited “the **Operator**”.

Hazrem Environmental Limited proposed facility is located at Nine Mile Point Waste Transfer Facility, Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly, NP11 7HZ. We refer to this as “the **Installation**” in this document.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the draft permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant’s proposals.

How this document is structured

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Glossary of acronyms used in this document

(Please note that this glossary is standard for our decision documents and therefore not all these acronyms are necessarily used in this document.)

BAT	Best Available Technique(s)
BAT-AEL	BAT Associated Emission Level
BREF	BAT Reference Note
CV	Calorific value
DAA	Directly associated activity – Additional activities necessary to be carried out to allow the principal activity to be carried out
DD	Decision document
ELV	Emission limit value
EMS	Environmental Management System
EPR	Environmental Permitting (England and Wales) Regulations 2010 (SI 2010 No. 675) as amended
FSA	Food Standards Agency
GWP	Global Warming Potential
HRA	Human Rights Act 1998
HW	Hazardous waste
IED	Industrial Emissions Directive (2010/75/EU)
IPPCD	Integrated Pollution Prevention and Control Directive (2008/1/EC) – now superseded by IED
LHB	Local Health Board
LOW	List Of Waste Regulations
MSW	Municipal Solid Waste
NO _x	Oxides of nitrogen (NO plus NO ₂ expressed as NO ₂)
OPRA	Operator Performance Risk Appraisal
PC	Process Contribution
PCT	Primary Care Trust
PEC	Predicted Environmental Concentration
PHW	Public Health Wales
PPS	Public participation statement
PR	Public register
RDF	Refuse derived fuel
RGS	Regulatory Guidance Series
RTO	Regenerative Thermal Oxidiser
SAC	Special Area of Conservation

SGN	Sector guidance note
SHPI(s)	Site(s) of High Public Interest
SPA(s)	Special Protection Area(s)
SS	Sewage sludge
SSSI(s)	Site(s) of Special Scientific Interest
SWMA	Specified waste management activity
TGN	Technical guidance note
WFD	Waste Framework Directive (2008/98/EC)
WHO	World Health Organisation

Key issues of the decision

1. Our 'minded to' decision

Based on the information currently available to us we are currently minded to issue a permit to the Applicant. This would, if issued, allow it to operate the Installation, subject to the conditions in the Permit.

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the permit will ensure that a high level of protection is provided for the environment and human health.

This Application is to operate an installation which is subject principally to the Industrial Emissions Directive (IED).

The permit contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard conditions appropriate.

2 How we reached our decision

2.1 Receipt of Application

The Application was accepted as duly made on 13th November 2015. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

The Applicant made no claim for commercial confidentiality. We have not received any information in relation to the Application that appears to be confidential in relation to any party.

2.2 Consultation on the Application

We carried out consultation on the Application in accordance with the EPR, our statutory Public Participation Statement (PPS) and our Regulatory Guidance Note RGN6 for Determinations involving Sites of High Public Interest. We consider that this process satisfies the requirements of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, which are directly incorporated into the Industrial Emissions Directive (IED), which applies to the Installation and the Application. We have also taken into account our obligations under the Local Democracy, Economic Development and Construction Act 2009 (particularly Section 23). This requires us, where we consider it appropriate, to take such steps as we consider appropriate to secure the involvement of representatives of interested persons in the exercise of our functions, by providing them with information, consulting them or involving them in any other way. In this case, our consultation already satisfies the Act's requirements. Furthermore we have also considered the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 during our assessment process.

We advertised the Application by a notice placed on our website, which contained all the information required by the IED, including telling people where

and when they could see a copy of the Application. We also placed an advertisement in the South Wales Echo on 8th January 2016.

We placed a copy of the Application and all other documents relevant to our determination (see below) on our electronic Public Register. Anyone wishing to see these documents could do so and arrange for copies to be made.

We sent copies of the Application to the following bodies, which includes those with whom we have “Working Together Agreements”:

- Caerphilly County Council Planning Department
- Caerphilly County Council Environmental Protection Department
- Health & Safety Executive
- Public Health Wales
- Aneurin Bevan University Health Board
- South Wales Fire and Rescue Service

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

Further details along with a summary of consultation comments and our response to the representations we received can be found in Annex 3. We have taken all relevant representations into consideration in reaching our determination.

We are now carrying out a consultation on our draft decision. This consultation will begin on 09/06/2016 and end on 08/07/2016.

2.3 Requests for Further Information

In order for us to be able to consider the Application duly made, we needed more information. We requested further information relating to the production of Solid Recovered Fuel (SRF) and why it had been listed under Section 5.4 Part A (1) (b) (iii) of the Environmental Permitting Regulations (EPR). We also required an Accident Management Plan and a Fire Prevention Management Plan to be submitted in support of this application. Upon receipt of this information we were able to consider the application Duly Made.

Further information was also requested by way of a Schedule 5 Notice requiring information to clarify aspects within the Environmental Risk Assessment, Operating Techniques, Waste Types, Odour Management, Fire Prevention Plan and Site Plans showing details of site drainage, surfacing, emission points and receptors in support of the Site Condition Report. The Schedule 5 Notice was sent on 10th March with a response date of 6th April. An extension was requested by the applicant until 20th April 2016. The Applicants response to the Schedule 5 Notice was provided on 20th April 2016. The additional information supplied satisfied the requirements of the Schedule 5 notice issued on the 10th March.

A copy of the information notice and e-mails requesting further information were placed on our public register as were the responses when received.

3 The legal framework

The Permit will be granted, under Regulation 13 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- an *operation* covered by the Waste Framework Directive (WFD), and
- subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that this decision is consistent with its general purpose of pursuing the sustainable management of natural resources in relation to Wales, and applying the principles of sustainable management of natural resources. In particular, NRW acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in granting the Permit a high level of protection will be delivered for the environment and human health through the operation of the Installation in accordance with the permit conditions.

4 The Installation

4.1 Description of the Installation and related issues

4.1.1 The permitted activities

The Installation is subject to the EPR because it carries out an activity listed in Part 1 of Schedule 1 of the EPR:

- Section 5.4 Part A(1)(b)(ii) – Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC –
 - (ii) Pre-treatment of waste for incineration or co-incineration.

An installation may also comprise “directly associated activities”, which at this Installation includes the storage of fuel, oils and waste fuel and oils.

Together, these listed and directly associated activities comprise the Installation.

4.1.2 The Site

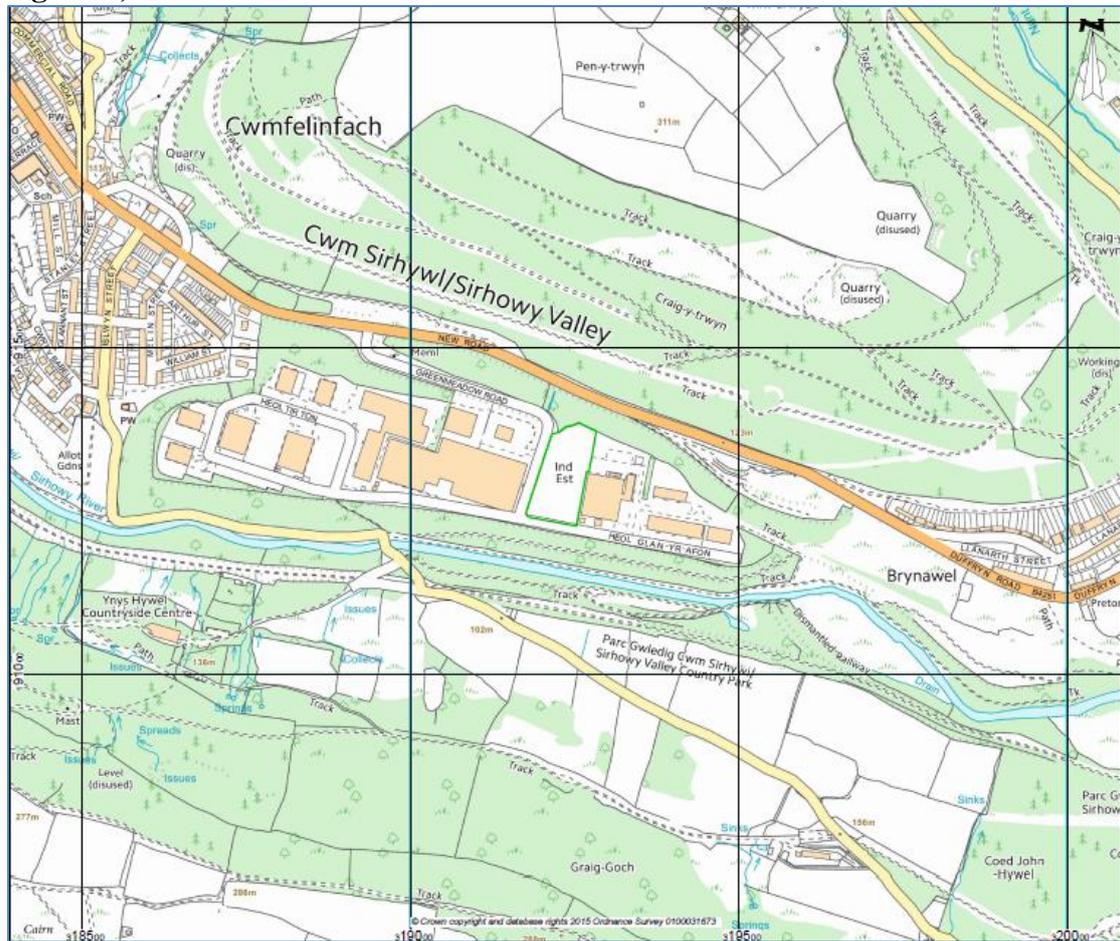
The installation will be developed on an area of undeveloped land just off the B4251 between the villages of Wattsville and Cwmfelinfach within Nine Mile Point Industrial Estate. Nine Mile Point Industrial Estate is situated in a valley with steep mountains on both sides. The predominant land use to the North and South of the site on the mountain sides is forestry land and farmland. The Sirhowy River is at the bottom of the valley approximately 70 metres away from the site boundary. The proposed facility will occupy an area of approximately 1.09 ha. The facility will be bounded by another industrial unit to the east, roads to the south and west and woodland and the B4251 to the north. The closest residential receptors are located approximately 470 metres to the northeast of the eastern edge of the site on New Road and approximately 480 metres west of the western boundary of the site at William Street, Figure 1 shows the

location of the site. The location of the installation is material to our determination of the permit application to the extent that it has implications for the following matters:

- The impact of emissions on local communities and sensitive environmental receptors;

These matters are addressed in this decision document.

Figure 1, Site location



The Applicant submitted a plan which we consider is satisfactory, showing the site of the Installation and its extent. A plan is included in Schedule 7 to the draft Permit, and, if granted, the Operator would be required to carry on the permitted activities within the site boundary. Figure 2 shows the site boundary and layout.

Figure 2. Site boundary and site layout



4.1.3 What the Installation does

The Applicant has described within the Best Available Techniques and Operating Techniques document submitted with the Application what the installation does. The installation is a waste recovery facility producing Solid Recovered Fuel (SRF) and Refuse Derived Fuel (RDF). The facility will accept and process up to 100,000 tonnes of non-hazardous household, commercial and industrial waste per annum, which will be treated to produce Solid Recovered Fuel (SRF) and Refuse Derived Fuel (RDF). SRF is waste which has been sorted to remove recyclables and non-combustible materials and dried using heat to increase the calorific value. RDF is treated in the same way as SRF however it does not undergo a drying process and therefore has a lesser calorific value than SRF. To be considered SRF the waste derived fuel needs to meet the criteria set out in BS EN 15359: 2011.

All activities will take place within the main reception building with the exception of the storage of baled SRF/RDF and the drying of wastes. Wastes will be segregated to separate recyclable wastes. The remaining non-recyclable waste will be treated to produce the SRF or RDF. Waste will be loaded into the primary shredder followed by screening to separate the fines. The primary

shredder has a dust suppressant system which reduces dust emissions. Waste will then be passed through an over band magnet, eddy current separators and a near infrared optical sorter to remove recyclables such as ferrous and non-ferrous metals and plastics. Material will then be shredded to the appropriate size dependent upon specification required. The shredded waste will then be transferred to a drum dryer which reduces the moisture content by heating the waste to a temperature of 80°C. The hot air will be generated by the combustion of mains fed natural gas. The exhaust air from the dryer will be treated by a baghouse filter to reduce particulate emissions and a Regenerative Thermal Oxidiser (RTO) to reduce odour, prior to release via the stack. RTO's use a bed of ceramic material to absorb heat from exhaust gases from the dryer. It then uses this captured heat to preheat the incoming gas stream and destroy odour emitted from the exhaust streams.

When the waste has been shredded and dried it will then be baled and wrapped. If the specification for SRF cannot be achieved from the waste received, it will be graded as RDF, The production of RDF follows the same process as SRF, however as it does not require drying, it will by-pass the drying stage, instead shredded waste will be transferred directly to the baler.

An RDF monitoring unit will be used to evaluate the quality and the composition of the RDF/SRF produced. The unit calculates and transmits the net calorific value, chlorine content, moisture content and biogenic content to a SCADA (Supervisory Control And Data Acquisition) system. The baled waste is then wrapped with 5 layers of wrapping, which will help to keep the moisture content down and prevent litter escaping. Bales will be stored for typically less than 1 month, although they may be stored for up to 3 months on an impermeable surface. There will be one baled RDF storage area which will occupy a total area of 267m². Within this area there will be a number of bales which will have a maximum height of 3.5m, length of 20m, volume of 450m³ and area of 235m². The site has storage capacity for 600 Bales. Recyclates will be stored within the waste reception building in bays following segregation prior to removal off site for recycling.

4.1.4 Key Issues in the Determination

The key issues arising during this determination were:

- Emissions to air. The discharge from emission point A1 required careful consideration of the potential impacts on human health in the context of the Emission Limit Values (ELVs).. The Applicant used air dispersion modelling to establish the predicted impact of the installation on air quality and made comparisons against Environmental Quality Standards (EQS) for the protection of human health provided in the Environment Agency's H1 Environmental Risk Assessment guidance which Natural Resources Wales have adopted.
- Odour. Odour was a key concern for nearby receptors. The applicant submitted an odour impact assessment and Odour Management Plan which demonstrated that odour would be managed appropriately so that it would not be expected to cause nuisance.
- Emissions to surface water. The Applicant proposed to discharge via a full retention interceptor water not used in the treatment of waste and clean run-off from roofing areas through the surface water drains used to serve the industrial estate.
- Emissions to sewer. It is proposed that foul drainage from the reception area will be discharged to sewer under a sewer discharge consent from Dŵr Cymru. Such consent must be obtained by the Applicant from Dŵr Cymru prior to discharging to sewer.

We describe how we determined these issues in more detail in this document.

4.2 The site and its protection

4.2.1 Proposed site design: potentially polluting substances and prevention measures

There are no releases to land or groundwater associated with the installation.

It is proposed that operational areas of the site will benefit from an engineered containment system comprising an impermeable concrete surface serviced by a sealed drainage system. All areas of the site that have the potential for contaminated run-off will be sealed and serviced with a secondary containment system.

Bunds and or double skinned walls will be provided for all tanks containing liquids whose spillage could be harmful to the environment. Containment bunds or double skinned walls will be provided to make sure that any leaks/spillages are contained in the event of a leak of the primary containment.

Furthermore, the operator has a duty to ensure that soil and groundwater are protected in order to meet the requirements of Articles 14 (1)(b), 14(1)(e) and 16(2) of the IED. PO4 requires the Applicant to submit a protocol to demonstrate to Natural Resources Wales how this will be achieved.

The operator has identified the hazards associated with the installation, which could present a risk to the environment in the event of an accident. The risks have been evaluated in Section 2.3 and Appendix A of the “Environmental Risk Assessment” of the permit application and the operator has described the procedural and physical control measures which are being developed to mitigate them.

We have assessed this information and are satisfied that the proposals will offer appropriate protection of the surrounding environment.

4.2.2 Closure and decommissioning

Permit condition 1.1.1 requires the Operator to have a written management system in place which identifies and minimises risks of pollution including those arising from closure.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site's current or approved future use. To do this, the Operator has to apply to us for surrender, which we will not grant unless and until we are satisfied that these requirements have been met.

4.3 Operation of the Installation – general issues

4.3.1 Administrative issues

The Applicant is the sole Operator of the Installation. We are satisfied that the Applicant is the person who will have control over the operation of the Installation if the Permit were to be granted; and that the Applicant will be able to operate the Installation so as to comply with the conditions included in the Permit, if issued.

The recovery of municipal waste for treatment prior to incineration is a specified waste management activity (SWMA). As such, the Applicant is required to demonstrate Technical Competence for dealing with waste, this must be demonstrated through a Certificate of Technical Competence (COTC) gained through assessment via an approved CWM/WAMITAB scheme. Because the application is for a new facility, the Applicant has a grace period in which to obtain the appropriate COTC. In order to comply with this grace period the applicant has to have obtained either an Environmental Permitting Operators Certificate (EPOC) or the low risk equivalent from the COTC Scheme, confirmation of compliance with this shall be secured through IC1. The Applicant also has to have obtained the full COTC within 12 months of

operating. Confirmation that this has been adhered to will be secured through IC2.

We are satisfied that the Applicant's submitted OPRA profile is accurate. The OPRA score will be used as the basis for subsistence and other charging, in accordance with our Charging Scheme. OPRA is Natural Resources Wales method of ensuring application and subsistence fees are appropriate and proportionate for the level of regulation required.

4.3.2 Management

The Applicant has stated in the Application that they will implement an Environmental Management System (EMS) that will meet the requirements for an EMS in our "How to comply with your environmental permit guidance". The Applicant submitted a summary of the EMS with their application. The Applicant has also stated in the Application that they will aim towards certification under ISO14001 within 12 months of operations commencing. Natural Resources Wales recognises that certification of the EMS cannot take place until the Installation is operational. We have included improvement condition 4 in the draft permit to require the Applicant to report on progress towards obtaining ISO14001 accreditation of their management system.

We are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions.

4.3.3 Site security

Having considered the information submitted in the Application, we are satisfied that appropriate infrastructure and procedures will be in place prior to start up to ensure that the site remains secure.

4.3.4 Accident management

The Applicant has submitted an Accident Management Plan and a Fire Management Plan as standalone documents forming part of the EMS. This document was supplied at NRW's request during the duly making assessment

of the application. As part of the Environmental Risk Assessment, the Applicant has also submitted an Accident Risk Assessment in Annex A of the Environmental Risk Assessment. Considering this along with other information submitted in the Application, we are satisfied that appropriate measures will be in place to ensure accidents that may cause pollution are prevented, but that, if they should occur, their consequences are minimised. In order to ensure that the management system proposed by the Applicant sufficiently manages the residual risk of accidents, permit condition 1.1.1a requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents. Pre-operational condition 6 requires the operator to provide a final version of the Accident Management Plan to include final details of containment measures and spill kit locations in the event of accidents.

4.3.5 Off-site conditions

We do not consider that any off-site conditions are necessary to meet the requirements of EPR.

4.3.6 Operating techniques

We have specified that the installation must be operated in accordance with the techniques set out in Table S1.2 of the Permit. The details referred to in that table describe the techniques that will be used for the operation of the Installation that have been assessed by Natural Resources Wales as indicative BAT; they form part of the Permit through Permit condition 2.3.1 and Table S1.2 in the Permit Schedules.

The Application contains a list of wastes set out in the List of Wastes Decision, which the Applicant will accept with the primary aim of treatment to turn the wastes into a fuel suitable for incineration in Waste Incineration Plants or other combustion units capable of combustion of waste derived fuels such as those at Cement Kilns. The application contained several wastes which we believed were unsuitable for conversion into SRF/RDF, these waste types were queried in our Schedule 5 Notice dated 10th March 2016 please see the table of waste types that were queried in Figure 3 below.

Figure 3. Waste types queried for suitability for conversion into SRF/RDF

Waste Code	Description
02 03 02	Wastes from preserving agents
02 03 03	Wastes from solvent extraction
02 03 04	Materials unsuitable for consumption or processing
02 05 01	Materials unsuitable for consumption
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
09 01 07	photographic film and paper containing silver or silver compounds
09 01 10	single-use cameras without batteries
16 01 22	components not otherwise specified
17 05 04	soil and stones other than those mentioned in 17 05 03
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 12 09	minerals (for example sand, stones)
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20 02 03	other non-biodegradable wastes
20 03 03	street-cleaning residues
20 03 07	bulky waste

In the Applicants Schedule 5 response provided on April 20th, 2016 the Applicant requested the removal of the majority of these waste types, however suitable justification was provided to demonstrate the suitability of some of the wastes for conversion into SRF/RDF as can be demonstrated in Figure 4 below.

Figure 4. Justification for suitability as fuel

Waste Code	Description	Suitability
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	Wastes taken under this code will comprise skip waste comprising mainly wood and other combustible's along with general waste from site workers which will be similar to those taken under 20 03 01.
20 02 03	other non-biodegradable wastes (solid wastes such as black bag waste, plastics)	Wastes taken under this code will be similar to those taken under 20 03 01. Therefore they will have a similar calorific value as 20 03 01 once the recyclable elements have been removed.
20 03 03	street-cleaning residues (Litter within street sweepings)	Wastes taken under this code will be similar to those taken under 20 03 01. Therefore they will have a similar calorific value as 20 03 01 once the recyclable elements have been removed.
20 03 07	bulky waste (Mattresses, carpets, furniture)	Carpet mixtures can have a CV of 23 MJ/kg. Mattresses when the metal springs have been removed have a calorific value of 18 – 23 MJ/kg. The furniture collected will comprise wood, textiles and plastics.

We have specified the permitted waste types, descriptions and where appropriate quantities that can be accepted at the installation for conversion to SRF/RDF in Table S2.1.

We are satisfied that the Applicant can accept the wastes contained in Table S2.1 of the Permit because: -

- the wastes are all categorised as non-hazardous in the List of Wastes Decision and are capable of being safely burnt at off-site incineration facilities.
- these wastes will not contain harmful components that cannot be safely processed at the Installation and off-site Waste Incineration Facilities.

The Applicant is permitted to accept up to 100,000 tonnes of waste at the facility per annum. The main purpose of the plant is for the production of SRF. For waste fuels to be classified as SRF they need to be produced from non-hazardous waste in compliance with the European standard EN 15359. Although this European Standard is not an obligation, there is a requirement that a producer specifies and classifies its SRF by detailing its net calorific value, and chlorine and mercury content of the fuel. Where the waste input means that they will not be able to meet these standards the waste derived fuel will be classified as RDF.

The Installation will be designed, constructed and operated using indicative BAT for the treatment of hazardous and non-hazardous wastes. We are satisfied that the operating and abatement techniques are BAT for waste treatment. Our assessment of BAT is set out later in this document.

4.3.7 Energy efficiency

We are satisfied that the Applicant will ensure that energy is used in the most efficient way possible.

The Operator is required to report energy usage under condition 4.2 and Schedule 4. The following parameters are required to be reported: Natural Gas

used on the installation. This will enable Natural Resources Wales to monitor energy recovery efficiency at the Installation.

4.3.8 Avoidance, recovery or disposal of wastes produced by the activities

This requirement addresses wastes produced at the facility and does not apply to the waste being treated there. There will be a minimal amount of waste produced by the operations at the facility itself. Most of this will be used within the process. The principal waste streams the facility will produce are used bag filters and used plastics from the wrapping of received waste and used oils. Used oils will be sent off site for recovery.

Having considered the information submitted in the Application, we are satisfied that the waste hierarchy referred to in Article 4 of the WFD will be applied to the generation of waste and that any waste generated will be treated in accordance with this Article.

We are satisfied that waste from the Installation that cannot be recovered will be disposed of offsite using a method that minimises any impact on the environment. Permit condition 1.4.1 will ensure that this position is maintained.

5. Minimising the Installation's environmental impact

Regulated activities can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, discharges to ground or groundwater, global warming potential and generation of waste. All these factors are discussed in this and other sections of this document.

For an installation of this kind, the principal emissions are odour and those to air, although we also consider those to land and water.

The next sections of this document explain how we have approached the critical issue of assessing the likely impact of the emissions to air from the Installation on human health and the environment and what measures we are requiring to ensure a high level of protection.

5.1 Assessment of Impact on Air Quality

The Applicant's assessment of the impact on air quality is set out in Appendix C of the Environmental Risk Assessment section of the Application. The assessment comprises of the dispersion modelling of NO_x emissions to air from the operation of the dryer.

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the dryer stack and its impact on local air quality.

The Applicant has assessed the Installation's potential emissions to air against the relevant air quality standards, and the potential impact upon human health. These assessments predict the potential effects on local air quality from the Installation's stack emission.

The air impact assessments, and the dispersion modelling has been based on the Installation operating continuously at the relevant long-term or short-term emission limit values, i.e. the maximum permitted emission rate.

We are in agreement with this approach. The assumptions underpinning the model have been checked and are reasonably precautionary. However, the Applicant has not considered the terrain and topography at the site and have not used representative meteorological data. The facility is located towards the bottom of a steep sided valley, the use of meteorological data taken from Cardiff International Airport which is located on the coast is not representative of meteorological conditions experienced in a steep sided valley. The Applicants modelling has not considered the effects of temperature inversions caused by cold drainage flow which can occur in the valley under certain meteorological conditions.

The way in which the Applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by Natural Resources Wales modelling specialists to establish the robustness

of the Applicant's air impact assessment. The output from the model has then been used to inform further assessment of health impacts.

We have carried out our own modelling assessment on emission of nitrogen oxides considering the effects of cold drainage flow using modelling software obtained from the German Weather Service. Our review of the Applicant's assessment leads us to agree with the Applicant's conclusions, despite their use of inappropriate meteorological data and not considering effects of cold drainage flow.

Natural Resources Wales therefore would not expect emissions from the site to cause a breach of Air Quality Objectives in the area. While visible plumes from the proposed stack are likely to occur, it is unlikely that visible plumes will impact residents, nearby public paths and traffic on the B4251 to the north of the industrial estate. The stack is located approximately 100 metres south of the B4251.

Due to local concern in respect of air quality impacts of additional traffic from the site we also assessed the potential impact of this. This assessment, although not pertinent to the decision at hand, concluded that the additional lorries associated with the development would not lead to an exceedance of Air Quality Objectives in the area.

5.2 Assessment of odour impact

The Applicants assessment of the impact of odour is set out in Appendix C of the Environmental Risk Assessment.

The facility by virtue of it being a waste facility could potentially generate nuisance odours; however, the facility will include a high level of odour control to minimise the risk of odour releases. The Environment Agency's H4 Guidance does not specifically place SRF processing in any particular "offensiveness category", however it is considered that untreated odours from the facility could be classed as "Offensive". However, the treatment of odorous air in a

Regenerative Thermal Oxidiser (RTO) will significantly reduce the concentration of any residual odours released to the atmosphere.

The nearest odour receptors to the facility are the surrounding industrial units. The nearest residential receptors are located approximately 470 metres to the northeast of the eastern edge of the site on New Road and approximately 480 metres west of the western boundary of the site at William Street. Despite waste types 20 02 03 and 20 03 01 being described as black bag wastes we agree that with the majority of food waste collections being undertaken separately we believe that odour risk from these waste types is still low. With proposed odour abatement in place, coupled with sound housekeeping and effective waste acceptance procedures, the overall source odour potential of the facility is considered to be small, and in addition the RTO and management procedures required by the permit will reduce the odour still further. We would therefore not expect the Installation to be the cause of any off site odour nuisance.

Odour management at the facility is based on the facility being designed to be enclosed with reception occurring within the confines of the building and treatment carried out under negative pressure with exhaust gases being treated by the RTO. In the event of failure of the RTO, waste processing activities will cease and waste will no longer be accepted until abatement equipment is functional again. Critical spares will be kept on site and a service agreement will be in place to ensure that the RTO can be brought back on line within 24 hours of a breakdown.

The Odour Management Plan has been incorporated into the Operating techniques of the permit in Table S1.2.

We did not entirely agree with the Applicants assessment of sensitive receptors in respect of odour. The Applicant used the following definition to define sensitive receptors *“nearest sensitive receptor” means the nearest place to the permitted activities 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 Safety". NRW consider sensitive receptors to be anybody who could be affected by odours including those using public footpaths and parks. We did carry out our own assessment of odour impact on the basis of our definition of sensitive receptor and concluded that we would not expect activities at the installation to be the source of odour nuisance in the area. Therefore, despite this misuse of the definition we agreed with the applicants overall conclusion of the risk of odour from the facility. Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise odour and to prevent pollution from odour.

5.3 Assessment of impact to surface and ground water

The main source of emissions to surface water and groundwater is fugitive emissions from the sites surface water drainage. This is directed to storage crates, before passing through a full retention interceptor and then released into the industrial estates surface water drainage system. Any wastes which may generate a leachate will be stored within the main reception building which is served with a sealed drainage system which drains to foul sewer. The only waste stored outside is baled SRF/RDF which will be wrapped in 5 layers of plastic.

In their Site Condition Report (SCR), the Applicant has provided satisfactory information to describe the geology, hydrogeology and surface waters at the site. The site overlies made ground, superficial glacial and alluvial deposits, overlying Coal Measures. The underlying formations are considered to be Secondary Aquifers, which are of high vulnerability. The site is in close proximity to the River Sirhowy, which is therefore a potential receptor of groundwater in the area.

The history of the site and potential pollution is clearly documented. The site has been used as a deep coal mine in the early 1900s, with associated rail and

tramways across the site. The site was decommissioned in the 1960s, when it was levelled with colliery spoil and the shafts were filled with shale and capped.

A site walkover and preliminary site investigation describe a significant thickness of made ground beneath the site that contains timber, ash, clinker and concrete in a gravel matrix, which have the potential to leach hazardous substances and pollutants. No visual or olfactory evidence of significant contamination was identified.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent pollution of ground and surface water.

5.4 Emissions to sewer

There is a release to sewer associated with this installation. Any contaminated water leaching from waste stored within the waste reception building will be discharged to sewer. This discharge will be regulated by a consent issued by Dŵr Cymru. As the facility is not yet built a pre-operational condition PO2 requires details of the consent to discharge to be provided to NRW prior to operations commencing.

We are satisfied that the pollution risk associated with the installation is low based on the use of appropriate surfacing, satisfactory containment, inspection measures and the operating procedures which will be put in place as part of the ISO 14001 environmental management system.

5.5 Fugitive emissions

The Applicant describes within the Environmental Risk Assessment, Sections 2.6 and 2.7 the fugitive emissions that could be associated with the facility and the measures and processes that will be used to minimise fugitive emissions from the site. The main potential sources of fugitive emissions are those of dust and particulates released to air from the waste reception building and from the drying of waste and of fugitive emissions to land and water.

The design of the building is based on the principles of containment, extraction and treatment in order to prevent fugitive releases. With regards to fugitive emissions of dust and litter, good housekeeping will be implemented across the site in order to mitigate the potential for dust emissions. A dust suppression system will be in place in the waste reception and processing building. This will consist of four dust suppression units, which will collect dust for conversion to SRF/RDF. The dryer has a baghouse filter which will reduce particulate emissions and the RTO will reduce odour emissions. With regard to fugitive emissions to land and water the site will be engineered to provide full containment to minimise the risk of fugitive emissions. All areas that have the potential for contaminated run-off will be sealed and serviced with a secondary containment system and any run-off will be directed to foul sewer in accordance with a trade effluent consent issued by Dŵr Cymru. Surface water from external areas of the site will drain to storage crates, before passing through a full retention interceptor and then released into the industrial estates surface water drainage system.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

5.6 Noise Assessment

A noise assessment was carried out in line with BS4142:2014 “Methods for rating and Assessing Industrial and Commercial Sound”. It is concluded, and demonstrated based upon the information contained within this report that the proposed facility would not result in adverse impacts on amenity within the area. IC3 requires that the Applicant carry out monitoring once operational to confirm the assumptions made in the Noise Impact Assessment.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise noise emissions and to prevent nuisance from noise emissions.

5.7 Global warming potential

This section summarises the assessment of greenhouse gas impacts which has been made in the determination of this Permit. Emissions of carbon dioxide (CO₂) and other greenhouse gases differ from those of other pollutants in that, except at gross levels, they have no localised environmental impact. Their impact is at a global level and in terms of climate change.

The Global Warming Potential (GWP) score for the facility is 7089 which has been derived from CO₂ from the combustion of natural gas for the dryer unit and CO₂ associated with the electricity supply to the site. BAT for greenhouse gas emissions is to maximise energy recovery and efficiency.

The drying of material to produce SRF will increase the net calorific value of the fuel from 14.6 MJ/kg to 16.9 MJ/kg which increases the value of the SRF as a fuel. Furthermore the drying of the SRF by approximately 45% will reduce the indirect greenhouse gas emissions per tonne of fuel burnt due to the resulting reduction of weight loads.

Global Warming Potential (GWP100) emissions as carbon dioxide equivalents (CO₂e) are estimated for the proposed facility in accordance with the Environment Agency's Horizontal Guidance Note, H1. The assessment uses the H1 screening tool, developed to support the H1 Guidance method.

5.8 Impact on Habitats sites, SSSIs, non-statutory conservation sites etc

According to the Air Quality Technical Advisory Group Paper (AQTAG014) for Combustion Plants, due to the scale of the dryer there is no need to carry out an assessment with regards to impacts on habitats sites for combustion plants less than 5 MW. According to the AQTAG which NRW has adopted "This EPR installation is not considered '*relevant*' for assessment under the Agency's procedures which cover the Conservation (Natural Habitats &c.) Regulations 1994 (Habitats Regulations). This was determined by referring to the Agency's guidance 'AQTAG014: Guidance on identifying '*relevance*' for assessment

under the Habitats Regulations for installations with combustion processes.’ There are no other emissions from the installation, thus no detailed assessment of the effect of the releases from the installation on SACs, SPAs and Ramsar sites is required.

6. Setting ELVs and other Permit conditions

6.1 Translating BAT into Permit conditions

Article 14(3) of IED states that BAT conclusions shall be the reference for permit conditions. Article 15(3) further requires that under normal operating conditions; emissions do not exceed the emission levels associated with the best available techniques as laid down in the decisions on BAT conclusions.

At the time of writing of this document, no BAT conclusions have been published for waste treatment. Sector Guidance Note S5.06 for the recovery and disposal of hazardous and non-hazardous waste refers to BAT for the Combustion Sector. The BREF document for Large Combustion Plant is for combustion installations with a rated thermal input exceeding 50 MW. It is therefore not relevant to this process

The emission limits described in the air dispersion modelling sets the worst case scenario. If this shows the emissions from the site are low and that they will not cause a breach of air quality objectives in the area then we are satisfied that the emissions from the site will not adversely impact the surrounding environment or the health of the local community.

6.1.1 National and European EQSs

As detailed in section 5.1, the environmental impact of the installation has been assessed against relevant EQSs, at the level of performance required by IED. The installation will not result in the breach of any EQSs. We accept that the applicant’s proposals are indicative BAT.

6.2 Monitoring

We have decided that monitoring should be carried out for the parameters listed in Schedule 3 using the methods and to the frequencies specified in those tables. These monitoring requirements have been imposed in order to demonstrate that the dryer is working in accordance with assumptions.

For emissions to air, the methods for continuous and periodic monitoring are in accordance with the Environment Agency's Guidance M2 for monitoring of stack emissions to air.

Based on the information in the Application and the requirements set in the conditions of the permit we are satisfied that the monitoring techniques, personnel and equipment employed by the Operator will have either MCERTS certification or MCERTS accreditation as appropriate.

6.3 Reporting

We have specified the reporting requirements in Schedule 4 of the Permit to ensure data is reported to enable timely review by Natural Resources Wales to ensure compliance with permit conditions and to monitor the efficiency of material use and waste recovery at the installation.

ANNEX 1: Pre-Operational Conditions

Based on the information in the Application, we consider that we do need to impose pre-operational conditions. These conditions are set out below and referred to, where applicable, in the text of the decision document. We are using these conditions to require the operator to confirm that the details and measures proposed in the Application have been adopted or implemented prior to the operation of the Installation.

- Pre-operational Condition 1 requires the operator to submit registration details of the COTC scheme that the Technical Competent Manager has signed up to.
- Pre-operational condition 2 requires the operator to submit the final site drainage plan and to provide details of the consent to discharge to sewer issued by Dŵr Cymru.
- Pre-operational condition 3 requires the operator to submit final details of the fire suppression system to be installed on site.
- Pre-operational condition 4 requires the operator to submit a written protocol to demonstrate how the Operator will meet the requirements of Articles 14(1)(b), 14(1)(e) and 16(2) of the IED for the monitoring of soil and groundwater for approval by Natural Resources Wales.
- Pre-operational condition 5 requires the operator to submit a report on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater. The report shall contain information, supplementary to that already provided in the application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.
- Pre-operational condition 6 requires the operator to provide a final version of the Accident Management Plan to include final details of containment measures and spill kit locations in the event of accidents.

ANNEX 2: Improvement Conditions

Based on the information in the Application we consider that we need to set improvement conditions. These conditions are set out below - justifications for these are provided at the relevant section of the decision document. We are using these conditions to require the Operator to provide Natural Resources Wales with details that need to be established or confirmed during commissioning and/or after operations commence.

- Improvement Condition 1 requires the operator to provide details of their EPOC or Low Risk Equivalent qualification within 1 month of operating.
- Improvement Condition 2 requires the operator to provide details of the full Certificate of Technical Competence within 12 months of operating.
- Improvement Condition 3 requires the operator to carry out noise monitoring in accordance with BS4142 to confirm the assumptions from the Noise Impact Assessment. A report shall be submitted to Natural Resources Wales within 6 months of operations commencing.
- Improvement Condition 4 requires the Operator to submit to Natural Resources Wales a report outlining their progress towards obtaining accreditation to ISO14001.

ANNEX 3: Consultation Reponses

A) Advertising and Consultation on the Application

The Application has been advertised and consulted upon in accordance with Natural Resources Wales Public Participation Statement. The way in which this has been carried out along with the results of our consultation and how we have taken consultation responses into account in reaching our draft decision is summarised in this Annex. Copies of all consultation responses have been placed on Natural Resources Wales public register.

The Application was advertised on the Natural Resources Wales website from 10th December 2015 to 10th February 2016 and in the South Wales Echo on 8th January 2016. Copies of the Application were placed on our Public Register.

The following statutory and non-statutory bodies were consulted: -

- Caerphilly County Borough Council (Environmental Health)
- Caerphilly County Borough Council (Planners)
- Public Health Wales
- Health and Safety Executive
- South Wales Fire and Rescue Service
- Aneurin Bevan University Health Board

1) Consultation Responses from Statutory and Non-Statutory Bodies

Response Received from Caerphilly County Borough Council	
Brief summary of issues raised:	Summary of action taken / how this has been covered
No issues raised	None required

Response Received from Aneurin Bevan Health Board	
Brief summary of issues raised:	Summary of action taken / how this has been covered
<p>❖ Recommended that conditions are included in the permit to include:</p> <ul style="list-style-type: none"> • Robust management plans for the control of emissions. • Strict waste acceptance criteria. • The provision of an accredited management system. • That NRW are satisfied that there will be no discernible odour from activities. • That NRW are satisfied that the air dispersion modelling was satisfactory in respect of the terrain and topography. • Noise monitoring is undertaken upon commencement of operations to confirm modelling assumptions. • NRW identify potential impacts upon local air quality from on-site emissions and process generated traffic. 	<ul style="list-style-type: none"> • Condition 1.1.1 requires that the operator shall manage and operate the activities in accordance with a written management system that identifies and minimises risks of pollution. • We are satisfied that based on the waste types accepted, waste procedures and the odour abatement that there will be no odour nuisance beyond the site boundary. • NRW carried out air dispersion modelling taking in to account the steep side valley and the effects of temperature inversions. We concluded that there will be no adverse effects upon local air quality from the activities. Please see section 5.1 for further details. • IC3 requires noise monitoring to be carried out to verify assumptions made in the Noise Impact Assessment. • How we have assessed the potential impacts upon the local air quality of emissions from the site has been described in section 5.1 of this document.

2) Consultation Responses from Members of the Public and Community Organisations

A number of the issues raised during the consultation process are outside Natural Resources Wales remit in reaching its permitting decisions. Specifically questions were raised which fall within the jurisdiction of the planning system, both on the development of planning policy and the grant of planning permission. Specific planning issues raised related to the location of the site, the location of the stack, traffic movements and emissions from off-site traffic movements.

Guidance on the interaction between planning and pollution control is given in PPS23/ Planning Policy Wales. It says that the planning and pollution control systems are separate but complementary. We are only able to take into account those issues, which fall within regulatory scope of the Environmental Permitting Regulations.

a) Representations from Local MP, Assembly Member (AM), Councillors and Parish / Town / Community Councils

Response Received from MP for Islwyn Mr Chris Evans	
Brief summary of issues raised:	Summary of action taken / how this has been covered
<ul style="list-style-type: none"> • Emissions being trapped by thermal inversions • Number of HGV's • Emissions from associated HGV's 	<p>Modelling was undertaken by our Air Quality Modelling and Risk Assessment team (AQMRAT) that demonstrates that even with the effects of temperature inversion and cold drainage emissions the increase in concentration of pollutant in the local atmosphere due to the activities on site would be minimal and would not contribute to a breach of the Air Quality Objectives for the area. While visible plumes from the proposed stack are likely to occur, it is unlikely that visible plumes will impact residents, nearby public paths and traffic on the B4251 to the north of the industrial estate. Please see Section 5.1 for further details regarding our assessment of air quality from the proposed facility.</p> <p>As mentioned above the impact of activities outside the boundary of the site is not a material consideration for the assessment of the environmental permit. Such matters are considered during the assessment of the planning application.</p>

b) Representations from Community and Other Organisations

Response Received from Lower Sirhowy Valley Residents Association	
Brief summary of issues raised:	Summary of action taken / how this has been covered
<ul style="list-style-type: none"> • Concerns raised about emissions being trapped by thermal inversions • Concerns about number of HGV's • Concerns about emissions from associated HGV's • Concerns about Odour • concerns that the stack was too close to the B4251 road and that the plume could cause harm to passing traffic and pedestrians. 	<p>Modelling was undertaken by our AQMRAT team that demonstrates that even with the effects of temperature inversion and cold drainage emissions the increase in concentration of pollutant in the local atmosphere due to the activities on site would be minimal and not cause a breach of the Air Quality Objectives for the area.</p> <p>As mentioned above the impact of activities outside the boundary of the site is not a material consideration for the assessment of the environmental permit. Such matters are considered during the assessment of the planning application. We have also assessed the impact of odour from the site and are satisfied that the nature of the waste brought on to site and the way odour is managed at the site that odour will not cause a nuisance to the local community. See Section 5.2 for more detail. .</p> <p>While visible plumes from the proposed stack are likely to occur, it is unlikely that visible plumes will impact residents, nearby public paths and traffic on the B4251 to the north of the industrial estate. Please see Section 5.1 for further details regarding our assessment of air quality from the proposed facility. These assessments have taken into consideration the distance between the stack and the B4251.</p>

c) **Representations from Individual Members of the Public**

Response Received from 674 individual residents signing Lower Sirhowy Valley Residents Association petition	
Brief summary of issues raised:	Summary of action taken / how this has been covered
<ul style="list-style-type: none"> • Concerns raised about emissions being trapped by thermal inversions • Concerns about number of HGV's • Concerns about emissions from associated HGV's • Concerns about Odour • concerns that the stack was too close to the B4251 road and that the plume could cause harm to passing traffic and pedestrians. 	<p>see our response to the same concerns in above table.</p>