

Natural Resources Wales permitting decisions

Atlantic Recycling Limited

Decision Document

Variation of a Bespoke Permit

The variation number is: EPR/PP3993VS/V007.

The Operator is: Atlantic Recycling Limited

The Installation is located at: Atlantic Recycling Limited, Atlantic Eco Park, Newton Road, Rumney, Cardiff, CF3 2EJ.

We have decided to issue in part, the variation for Atlantic Recycling Limited operated by Atlantic Recycling Limited. With part of the application being refused, as detailed below.

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.

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 permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the Operator's proposals.

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Key issues of the decision

The key issue in this determination was the proposed Small Waste Co-Incineration plant (SWCP). Please see the summary of the proposed SWCP in Section 1 below, the outline of our decision in Section 2 and the detailed explanation in Section 4.1.

1 Outline of application

The Operator is applying to vary their current permit to:

- Install and operate a Waste Water Treatment Plant (WWTP). The WWTP will be designed to handle 3.5 litres/second, equivalent to approximately 100,000 tonnes per annum of surface water from the waste storage and treatment areas of the site, and includes biological treatment stages. The actual capacity of the WWTP will be approximately 70,000 tonnes per annum to allow for maintenance, breakdowns and repeat treatment of batches if required. The bespoke WWTP is designed to treat surface water to meet the numerical limits already specified in Table S3.1 of the permit. The treated waters will continue to discharge via the existing outfall point D2, and the compliance monitoring point is at D2 where water enters the SSSI reën system.
- Install a SWCP, supplying thermal energy in the form of 85°C hot water for use in the WWTP.
- The boiler would be a SWCP. Under the Environmental Permitting Regulations (England and Wales) 2016 (EPR), it could not be classed as a Schedule 1.1 Part B activity as it would be burning waste as a fuel and because the thermal rating is too low. It could not be classed as an EPR Schedule 5.1 Part B (a)(v) activity as the treated (non-hazardous) wood waste fuel would contain potential contaminants. The SWCP would be subject to EPR Schedule 13 and Industrial Emissions Directive (IED) Chapter IV requirements as well as BAT.
- Include an expanded dedicated Refuse Derived Fuel (RDF) / Solid Recovered Fuel (SRF) processing facility separate to the current Waste Transfer Station (WTS) activity on site including an associated increase in tonnages from 40,000 tonnes to 100,000 tonnes per annum. A dedicated building will be constructed to house the new SRF

processing plant and the mobile plant currently used at the WTS to produce RDF. The new facility will process paper, plastics, cardboard and other packaging.

- Remove the current “other specifications” from Tables S3.2 – surface water monitoring and S3.3 – groundwater monitoring of the permit and replace them with new monitoring procedure references.

Since the variation application was first made in April 2017 the Operator has requested that the following change also be made:

- That the storage of all treated RDF/SRF, whether loose or wrapped/baled be outside of a building on an impermeable surface with sealed drainage system. Originally it was stated in the application that post processing of RDF/SRF waste, loose waste would be stored inside a building and baled waste outside on an impermeable surface. This change allows the material to be stored in containers more suited to customer needs and not only baled.

There is no proposed change to the site boundary, or the wood processing and soil processing activities, as a result of this variation.

2 Our proposed decision

We are minded to refuse one element of the application and to issue the remaining aspects of the variation application. Specifically, the aspect to be refused is the proposed Small Waste Co-Incineration Plant (SWCP). The other aspects of the application as outlined above are included in the varied and consolidated 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 variation application is to operate an installation which is subject principally to the Environmental Permitting Regulations (*England and Wales*) 2016 (EPR) and the requirements of the Industrial Emissions Directive (IED).

The draft consolidated 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.

This document should be read in conjunction with the application and supporting information, the variation notice and consolidated permit.

3 How we reached our draft decision

3.1 Receipt of Application

The Application was accepted as duly made on 01 June 2017. 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 Operator made no claim for commercial confidentiality. We have not received information in relation to the Application that appears to be confidential in relation to any party.

3.2 Consultation on the Application

The consultation requirements were identified and implemented. The decision was taken in accordance with EPR RGN 6 “Determinations involving Sites of High Public Interest”, our Public Participation Statement and our Working Together Agreements.

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. The application consultation started on 19 June 2017 and ended on 17 July 2017.

A copy of the Application and all other documents relevant to our determination are available for the public to view. Anyone wishing to see these documents could 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”:

- Dŵr Cymru/Welsh Water
- Cardiff City Council (Environmental Health)
- Cardiff City Council (Planning)
- Public Health Wales
- Cardiff and Vale 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 draft determination.

3.3 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:

- How the Refuse Derived Fuel (RDF) / Solid Recovered Fuel (SRF) is treated to improve the quality of the waste as a fuel
- The capacity of the waste water treatment plant in tonnes
- Air Quality Modelling electronic files
- Correct OPRA file and application fee.

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 sent on 15 September 2017, requiring information relating to the Fire Prevention and Mitigation Plan, baseline site condition report, the waste water treatment plant and again we requested clarification relating to how the treatment of SRF/RDF changes the composition of the waste. The response due date was 13 October 2017. The Operator requested additional time until 20 October 2017. The Operator's response to the Schedule 5 Notice was provided on 27 October 2017.

Due to enforcement action against the Operator that was ongoing at the time, it was deemed that this application should be put into abeyance until such time that enforcement proceedings

has been completed. The information provided by the applicant, referred to above was therefore not reviewed upon receipt. Once reviewed it was not considered that the information met the requirements of the Schedule 5 Notice and feedback on the information received was provided to the applicant on 14 December 2018.

A second Schedule 5 Notice was sent to the Operator on 14 December 2018 with a response due date of 18 January 2019 requesting a Human Health Risk Assessment for emissions to air, a Best Available Techniques (BAT) assessment in respect to the European Union Waste Treatment Best Available Techniques Reference Document (BREF) and information relating to drainage, the site condition report, the waste water treatment plant and RDF/SRF production. The Operator's response was received on 18 January 2019.

Additional details on operating techniques with respect to waste types, emissions and storage were received on 15 October 2019 and additional details on the waste water treatment and discharge, with respect to temperature, were received on 27 January 2020.

A copy of the Schedule 5 information notices and e-mails requesting further information were placed on our public register as were the responses when received.

Having carefully considered the Application and all other relevant information, we put our draft decision before the public and other interested parties in the form of a draft Permit, together with a draft explanatory document. As a result of this stage in the process, the public was provided with all the information that is relevant to our determination, including the original Application and additional information obtained subsequently, and we have given the public two separate opportunities (including this one) to comment on the Application and its determination.

The consultation on our draft decision took place from 01/04/2020 to 30/04/2020. No representations were received.

In advance of the draft consultation the operator submitted additional information regarding the SWCP in order to proceed with meeting requirements in the then draft permit ahead of the permit being issued (the operator having been consulted on the draft documents ahead of the public consultation). Specifically the operators supplied information on 23/03/2020. This information focussed on the specifications of the SWCP as they relate to the residence times of combustion gases. The information being needed to satisfy requirements in the draft permit

as specified in the improvement conditions and the draft pre-operational conditions. This information is reviewed in detail in Section 4.1 below.

4 The Legal Framework

The variation will be issued, under Regulation 20 of the Environmental Permitting Regulations (England and Wales) 2016 (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 varied to become:

- an *installation* as described by the EPR;
- subject to the provisions of Chapter II of the IED;
- a *waste operation* covered by the Waste Framework Directive for the existing waste treatment activities; and
- subject to aspects of other relevant legislation which also have to be addressed.

All applicable European directives have been considered in the determination of this application.

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.

We consider that, if we issue the variation a high level of protection will be delivered for the environment and human health through the operation of the regulated facilities in accordance with the permit conditions.

4.1 The legal and technical framework with specific regard to the proposed SWCP

If the proposed SWCP activity were to take place, then it would need to be included in the permit because such a plant is subject to the EPR via the definition of “small waste incineration plant” as given in Part 1: General, paragraph 2 of the Environmental Permitting Regulations 2016:

“small waste incineration plant” means a waste incineration plant or waste co-incineration plant with a capacity less than or equal to 10 tonnes per day for hazardous waste or 3 tonnes per hour for non-hazardous waste;

Also defined is “waste co-incineration plant”;

“waste co-incineration plant” means a stationary or mobile technical unit whose main purpose is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated;

Further applicable legislation is The Industrial Emissions Directive (IED), published on 17/12/2010. Which states in Chapter 1, article 3, Paragraph 41 that “waste co-incineration plant” means any stationary or mobile technical unit whose main purpose is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal through the incineration by oxidation of waste as well as other thermal treatment processes, such as pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated.”

CHAPTER IV of the IED sets SPECIAL PROVISIONS FOR WASTE INCINERATION PLANTS AND WASTE CO-INCINERATION PLANTS:

Article 42:

Scope

1. This Chapter shall apply to waste incineration plants and waste co-incineration plants which incinerate or co-incinerate solid or liquid waste.

Article 50:

“Waste co-incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the co-incineration of waste is raised in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 °C for at least two seconds”

This refers to “the gas resulting from the co-incineration of waste”. Therefore it is talking about what needs to happen after the primary stage has produced a flue “gas”. This cannot be defined as to have occurred until gaseous breakdown products have been entirely released from the fuel.

It then goes on to say that this gas needs to be “raised in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 degrees Celsius for at least two seconds”.

We have also considered the guidance provided in:

“Review of BAT for New Waste Incineration Issues Part 2 Validation of Combustion Conditions” R&D Technical Report P4-100/TR Part 2 Validation of Combustion Conditions, D Scott & A Collings

in section 4.2.2 it clarifies that the “qualifying geometric volume will commence after the last injection of secondary air...”

To avoid confusion it is recommended that the qualifying zone should be a **clearly identifiable discrete zone**. Primary combustion should not take place there, gas phase combustion should be completed there and gas temperature and oxygen concentrations should not fall below the allowable minima in this zone. It is therefore recommended that the zone be taken as commencing after the last injection of secondary air (or over-fire air). In some designs it is

N.B. This guidance refers to incineration plants, rather than co-incineration plants, however the UK regulators consider that the fundamental principles set out in the guidance are equally applicable to co-incineration when determining the extent and geometric volume to be used in computation of the flue gas residence time.

The proposed SWCP was described in the permit application and supporting and further details were supplied later during the determination of the application.

Specifically:

Appendix 8 to the application included the document referred to as *Schedule 13 SWIP Application – Atlantic Recycling Ltd – Boiler Installation*. [Note: The applicant originally applied for a small waste incineration plant (SWIP), however subsequent discussions confirmed that the correct description of the proposal was a small waste co-incineration plant (SWCP)]

3.3.2 Primary combustion air is delivered via the forced draft (FD) fan beneath the grate. The under-grate section of the boiler is divided into two compartments to enable the excess air levels to be controlled to match the requirements of the initial devolatilisation of the wood chip at the front end of the stepped grate, and the slower burn out of the residual char which requires higher excess air levels. The primary combustion air flowrates into the two under grate sections are controlled by dampers, whose position is controlled by the boilers PLC control system. Secondary combustion air is introduced above the grate via a series of channels in the refractory lining, to obtain the correct air-to-fuel ratio for combustion of the volatile gases released by the burning wood chip fuel, and tertiary air is added above the refractory arch, prior to entry into the water-cooled heat exchange section of the boiler. The

The above description suggests that burnout of flue gas is still taking place into the heat recovery section of the plant, this creates ambiguity about the boundaries of the qualifying secondary combustion zone (QSCZ). It is a fundamental requirement that the exact start and finish boundaries of the QSCZ are demonstrated and that these meet the required standards.

Additionally, the application states:

3.4 Secondary Combustion Zone and Residence Time

3.4.1 The tertiary combustion zones of the biomass boiler provide a residence time of about 2.2 seconds following the final injection of combustion air, based upon the volumetric flowrate of the flue gas generated by the combustion of the wood chip fuel, which exits the combustion chamber at a temperature in between 950 and 1,000°C. A copy of the technical data sheet for the biomass boiler is at appendix 4 and provides information on flue gas volumetric flowrates and the dimensions of the combustion chamber, and the derivation of the 2.2 seconds residence time.

The above statement reflects a similar statement provided by the applicant in The Air Quality Assessment, Dated 13 April 2017, Rev 2, Appendix 4, Biomass Boiler Data Sheet. This states that the residence time is 2.2 seconds, and gives a flue gas temperature of 950 to 1000 degrees Celsius.

The operator supplied a scale cross-sectional drawing of the boiler on 3 June 2020, with labels describing the air inputs and a hatched area showing what they describe as the secondary combustion zone. The operator maintains that the last input of air is located very close to the base of the chamber as can be seen on their diagram below. The plan (reproduced below) shows a small internal volume to be occupied by the wood fuel itself and then the entire

remaining internal capacity as being the secondary combustion zone. The zone occupied by the wood fuel in the drawing isn't labelled as such but can be seen as an unshaded white area below the hatched area.

The drawing also shows additional inputs that it describes as flue gas. As can also be seen on the diagram below, the first of these is located significantly far into the hatched area and the second is further still into the hatched area.

The details provided show that primary combustion and gas phase combustion will be occurring in the space above the grate, however the applicant has declared that the starting boundary of the QSCZ starts at the top surface of the waste wood fuel, leaving no additional space for the primary combustion zone.

The information provided fails to prove that the stated QSCZ is correct, and that the zone does not in fact start further into the chamber such as where the drawing indicates that Flue Gas (and potentially additional combustion air) is added.

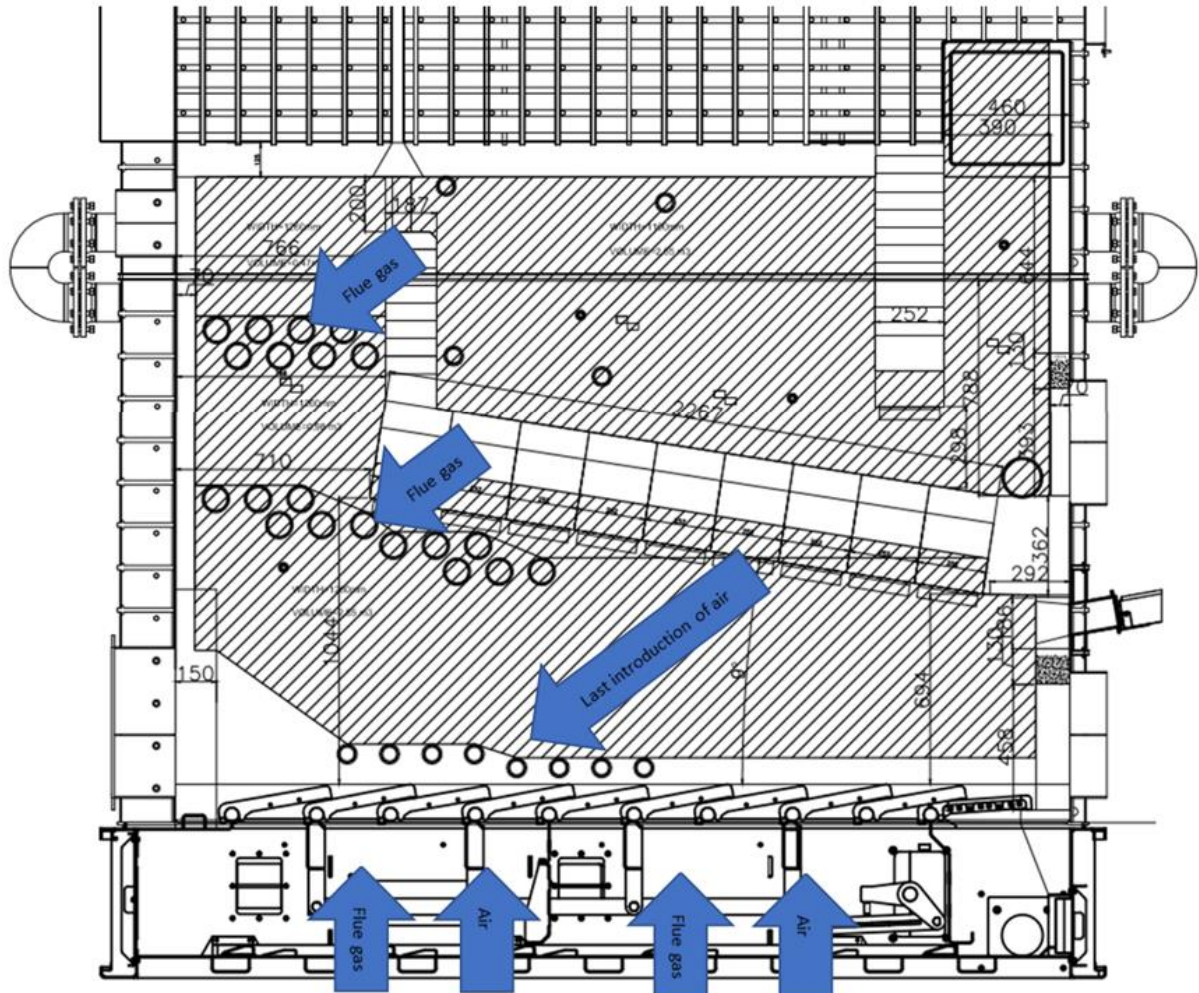
In order for a specified volume within a waste co-incinerator to be classified as the QSCZ, it must meet the necessary criteria. The QSCZ specified in the application includes a significant volume above the fuel grate where these criteria will not be met. Specifically, primary combustion must have been completed, gas phase combustion should be completed, and the last input of combustion air must have taken place. **These criteria are not met by a substantial proportion of the volume that has been categorised as the secondary combustion zone by the applicants. Consequently we do not consider that the proposed SWCP has been shown by the applicant to meet the necessary 2 seconds of flue gas residence time standard in a clearly identifiable discrete secondary combustion zone and therefore cannot permit this element of the application.**

Furthermore, applications should demonstrate that the flue gas achieves the minimum temperature requirement of 850°C for 2 seconds. This is typically demonstrated by submission of a computational fluid dynamics (CFD) modelling report. No such report or alternative demonstration has been provided by the applicant.

Achieving the minimum flue gas temperature requirement of 850°C for 2 seconds of residence time in a secondary combustion zone is a fundamental requirement for maximising the destruction of persistent pollutants in modern waste incineration and co-incineration processes. The applicant has not demonstrated that the proposed SWCP will achieve the requirements and the information provided suggests that the

requirements cannot be met. We therefore conclude that we must refuse permission to operate the SWCP as currently designed.

Cross section plan of proposed SWCP:



5 The Installation

5.1 Description of the Installation and related issues

5.1.1 The permitted activities

The site has been permitted since 2005. The primary regulated activities previously carried out are waste operations as defined in Schedule 8 of EPR, comprising of a:

- Waste transfer station with treatment permitted to accept up to 112,000 tonnes per annum for treatment and 18,000 for storage only.
- Soil processing facility permitted to accept up to 30,000 tonnes of waste per annum, with a storage limit of 100,000 tonnes.
- Wood processing facility permitted to accept up to 75,000 tonnes of waste per annum.
- Refuse derived fuel and solid recovered fuel processing facility permitted to accept and treat up to 40,000 tonnes of waste per annum.

A new regulated facility in the form of an Installation has been added to the permit as a result of this variation application. This is because the Operator has applied to increase the capacity of the SRF/RDF waste operation above the threshold that makes it an installation.

It will therefore carry out activities listed in Part 2 of Schedule 1 of the EPR:

- S5.4 Part A(1)(b)(ii) Recovery of non-hazardous waste with a capacity exceeding 75 tonnes per day involving pre-treatment of waste for incineration or co-incineration (this replaces the lower quantities previously permitted as a waste management operation)
- S5.4 Part A(1)(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment (this is a new water treatment plant)

The purpose of the SWCP is to combust waste wood to produce heat, which is used to heat water to 85°C for use in the Waste Water Treatment Plant. The plant is therefore classed as a directly associated activity (DAA) to the Waste Water Treatment Plant listed activity.

Together, the listed and directly associated activity comprise the installation regulated facility. The waste operation regulated facility is comprised of the waste transfer station with treatment, soil processing activity and the wood processing activity.

5.1.2 The Site

The site is located to the east of Cardiff, near Rumney at map reference ST 23673 78636. The surrounding area is flat and rural but with industrial areas close by to the north east and north west. It is also very close to the coast which lies approximately 450 metres to the south.

The site sits within the Gwent Levels – Rumney and Peterstone SSSI although the site boundary remains unchanged by this variation. Approximately 450 metres to the south is the Severn Estuary which is designated as a SAC, SPA, Ramsar and SSSI.

The likely emissions from the proposed changes on the nearby receptors was assessed in detail and is discussed further below.

5.2 The site and its protection

5.2.1 Proposed site design: potentially polluting substances and prevention measures

All areas of the site used for waste storage or treatment are provided with an impermeable surface with a sealed drainage system directed to the WWTP.

The new RDF/SRF processing facility will be located to the south of the existing WTS. The building will be 150 metres in length, 30 metres wide and 14.4 metres high to the eaves. The facility will be constructed on an impermeable hardstanding with a fully sealed drainage system.

The Applicant 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. Permit condition 3.1.3 requires periodic soil and groundwater monitoring based on systematic appraisal of the risk of contamination, and has been added now that the Operator is carrying out an activity subject to the IED.

5.3 Operation of the Installation – general issues

5.3.1 Administrative issues

The Applicant is the sole Operator of the regulated facilities.

We are satisfied that the Applicant is the person who will continue to have control over the operation of the regulated facilities after the issue of the variation; and that the Applicant will be able to continue to operate the regulated facilities so as to comply with the conditions included in the consolidated Permit.

We are satisfied that the Operator's submitted OPRA profile is accurate, the OPRA score being 88 for the installation. 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. Upon issue of this variation the Operator will have separate OPRA profiles for the Installation and waste facilities and an updated overall OPRA score.

5.3.2 Management

The Operator has an integrated Management system that meets the requirements for an Environmental Management System (EMS) in our "How to comply with your environmental permit guidance". The operator submitted a summary of the EMS with their application. The operator has also proposed that the site will be operated by staff holding the appropriate CoTC (Certificate of technical competence).

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

5.3.3 Site security

CCTV is to be installed on site and will be fitted with motion detectors. The CCTV will be fed back to on-site security staff between the hours of 6am and 6pm. Outside of these hours the site will be patrolled by two security guards.

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

5.3.4 Accident management

In order to ensure that the management system proposed by the Operator sufficiently manages the residual risk of accidents, permit condition 1.1.1 (a) requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents. A Fire Prevention and Mitigation plan was submitted in accordance with NRW's guidance on 18 January 2019. The ongoing matter of the fire prevention and mitigation plan on this operational site is under review.

5.3.5 Operating techniques

The Operator has identified the documents that provide relevant technical guidance for the proposed activities at the site. NRW agree that the operator has selected the correct guidance to cover the proposed changes and they have been included within the Operating Techniques table of the permit.

RDF/SRF Processing

The permit already allows for the production of RDF and SRF, below the threshold of 75 tonnes per hour for a Schedule 1 EPR activity. The Operator wants to increase the current treatment capacity to in excess of 75 tonnes per hour, and the annual throughput by 60,000 tonnes.

EPR RGN2 "Understanding the meaning of regulated facility" defines pre-treatment of waste for incineration or co-incineration as:

Where a waste treatment directly and intentionally improves the quality of the waste as a fuel by changing the composition of the waste in a way that changes one or more of the following 5 parameters:

- a) Calorific (or heating) value;
- b) Moisture content;
- c) Ash content;
- d) Chemical composition;
- e) Heavy metal content

Including for example, to fulfil contractual requirements or product standard requirements, then that process is pre-treatment for incineration or co-incineration. Where a waste treatment

is carried out for some other purpose and only incidentally improves the quality of the waste as a fuel, then it is not a 5.4 A(1)(b)(ii) activity. The Operator is intentionally treating waste to produce RDF.

RDF will be produced by undertaking an initial mechanical sort to remove any bulky/unsuitable items, then by feeding the waste into a mechanical shredder for initial processing into a reduced, consistent size of <200mm. Waste will then pass via a conveyor under an overband magnet to remove any ferrous metals. The remaining shredded waste will pass through a Trommel where it will be separated and stockpiled into a 60-200 mm product and a 0-60mm product. Any oversize material will be moved to the baling plant where it will be baled under hydraulic pressure, tied with nylon ties and wrapped with an approved 25 micron plastic wrap.

Pre-Acceptance procedures to assess wastes

The operator has established pre-acceptance procedures which have been approved by NRW under the existing permit. No changes have been proposed to these procedures and they will remain appropriate following the variation.

Waste Acceptance Procedures

Waste acceptance procedures will also be carried out in accordance with established and approved procedures. Incoming waste categorised as 19 12 10 and 19 12 12 will be directed straight to the new RDF/SRF Facility. This will reduce the volume of waste subject to internal transfer around the site. The WTS will accept predominantly chapter 17 wastes (as defined in the European Waste Catalogue). Should waste be brought to the site that on inspection is more suited to treatment at another part of the site, it will be transferred.

Waste Inspection

Each load will be visually checked to ensure non-permitted waste is not included. This visual check will continue whilst the waste is being moved into the correct waste processing area.

Unacceptable Waste

If the site operative identifies waste which is not permitted or is unsure of its acceptability, the site manager will be called. The site manager will inspect the waste and decide on the safety of the load. If possible, and if it is safe to do so, the waste will be loaded back onto the vehicle, which discharged it. If not possible or safe to do so, the site manager will consult NRW on the

course of action to be taken. No tipping will be allowed in the area of this waste until a decision has been made.

Dangerous Substances

If dangerous substances are delivered and discharged at the site they will be isolated from any other area by provision of an exclusion zone marked out with cones and rope or similar and the tipping area closed. NRW will be informed immediately and advice sought on how to deal with the materials. Should there be any reason to suspect that fumes or leakage is likely to affect workers or customers the site area will be evacuated and the fire service called out and specialist advice will be sought from them. Appropriate actions to remove the substances from the site will be taken following consultations with the fire service and NRW.

Quantity Measurement

Quantities of incoming and outgoing wastes to the facility are recorded in tonnes utilising the site weighbridge via the existing access road. All site records will be collated and stored at the site office so to ascertain waste throughput at the site.

It is not proposed that any waste transferred between the WTS and the RDF/SRF processing facility be weighed separately. Once waste has initially been directed to an area of the facility it will remain recorded as accepted to that area. It is not anticipated that a significant amount of waste will be transferred around the site. The weighbridge is calibrated annually in accordance with the manufacturer's recommendations.

Waste Storage

All wastes will be stored in line with the requirements of the permit, Waste Framework Directive and associated guidance.

RDF and SRF produced will be stored in stockpiles in accordance with the Fire Prevention and Mitigation Plan.

Following treatment in the RDF/SRF processing facility, SRF will be stored inside the building and RDF stored outside in appropriate containers to prevent windblown litter.

5.3.6 Energy efficiency

We are satisfied that the Operator will ensure that energy is used in the most efficient way possible, which is detailed in the operating techniques.

The Applicant is required to report energy usage under condition 4.2.2 and Schedule 4. This will enable Natural Resources Wales to monitor energy recovery efficiency at the Installation. Condition 1.2.1 requires that energy usage is regularly reviewed and appropriate measures taken to reduce it where possible.

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

Waste produced comprises of that produced from the administrative activities of the site which is transferred directly to the WTS for sorting along with waste accepted at the site from commercial operators.

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 off-site using a method that minimises any impact on the environment.

6 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 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 :

- Point source emissions to surface water
- Odour
- Fugitive emissions of dust/particulates and litter.

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

6.1 Assessment of odour impact

The proposed wastes are currently handled within the permitted facility which already has an established odour management plan. The new RDF/SRF processing facility will process

waste that will mainly constitute papers, plastics, cardboard and other packaging via the plant and machinery incorporating the latest technology. RDF and SRF will be processed / prepared and, where required, baled inside the processing building. The existing RDF process does not have a history of odour issues or complaints.

Any non-conforming wastes identified on site will be segregated from the site wastes and held in a sealed skip in the quarantine area for disposal off-site. The Operator's Environmental Management System includes a procedure for handling and recording odour complaints. This includes a requirement to investigate any complaint and where remedial action is taken that this be recorded and provided to NRW.

6.2 Assessment of impact to surface and ground water

There will be no point source emissions to groundwater as a result of the variation.

The permit already has a discharge point D2 which is controlled and monitored in accordance with the permit and the limits set out in Table S3.1. The WWTP will treat water prior to being discharged at point D2 in accordance with the operating techniques described earlier in this document. The WWTP is designed to treat the water to meet the limits in Table S3.1 of the permit to therefore allow for discharge into the Gwent Levels Reens, via emission point D2. This variation makes only one change to the limits set out in table S3.1, and that is the addition of a temperature limit. This has been added due to the proposal for the WWTP to warm the water as part of the process.

Rain water run-off from the building housing the RDF/SRF processing facility will be collected in a sealed system and used for dust suppression on site. During periods of prolonged heavy rain, run-off may exceed the storage capacity. In such scenarios the excess water will be discharged directly into the reens or field ditches. There will be no run-off from the operational area and the field ditch located to the east of the facility will be further protected by the provision of a 7m buffer zone where no activities or traffic will take place. The remainder of the site drains naturally.

The drainage system covering the area of the site on which the RDF/SRF processing operations will take place, will be a sealed drainage system that will be pumped to the WWTP.

Discharges of surface water from the site which have the potential to become contaminated will pass through interceptors and the WWTP which will be used to protect emissions to the

Reens. The inclusion of the WWTP provides for treatment and monitoring of water prior to discharge and includes buffer capacity to hold any out of specification water prior to further treatment or removal off-site.

An impermeable surface, subject to routine maintenance (to ensure its integrity is not compromised), will underlay all raw material storage areas to prevent fugitive emissions to the Reens should spills / leaks occur. Potential releases to any controlled watercourse would require simultaneous failure of the storage containers and secondary containment.

Bulk deliveries (i.e. diesel) will be overseen by a trained member of staff who will be responsible for checking that there is sufficient capacity in the storage vessel to receive the delivery.

Regular visual inspections of all bunds, tanks and containers will occur to ensure that the integrity is not compromised with no signs of damage or leaks. All storage tanks/containers will comprise materials which are resistant to the vessel content.

Training will also be provided to all staff relating to the use of spill kits and the Accident Management Plan and Spill Clean-Up Procedures. All site personnel will be tasked with monitoring for evidence of spillages and leakage during their day to day routine. Any evidence of spillage or leakage will be reported to the Site Manager or his nominated deputy for remedial action.

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.

6.3 Emissions to sewer

No emissions to sewer are proposed as a result of this variation.

6.4 Fugitive emissions

The RDF/SRF processing activity is to take place wholly within a new purpose-built building and therefore any fugitive emissions of dust or litter are likely to be contained within the building. The building will be fitted with extractors which will ensure that dust from inside the building is captured in a filter. The dust will be vacuum extracted from the filters as necessary and sent to an appropriate facility for processing. The monitoring of dust and particulate generation at the facility will be visual. In addition waste materials outside will be damped

down as necessary using a tractor / plant and a bowser. All RDF and SRF baling will take place within a building.

The operation of the WWTP is not likely to generate fugitive emissions to air such as dust particulates due to the fitted filters. These filters will be regularly maintained as part of the EMS. Any observed failure will be reported and action taken immediately to stop the fugitive emissions occurring.

All vehicles transporting materials to and from the facility will be sheeted or have enclosed containers to prevent fugitive emissions of dust or litter from vehicles. Regular inspections will be undertaken around the site perimeter, operational area, haul roads and highway for dust. Remedial action e.g. dampening or use of a road sweeper will be undertaken if dust is identified as a problem.

All wastes and recycled waste leaving the site will be containerised and baled where required by the end user.

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.

6.5 Noise Assessment

All potentially noisy activities will take place within a building including shredding and baling of SRF, RDF and recyclates. The building will be fitted with acoustic cladding to minimise any noise emission.

During the selection process for new plant and equipment, consideration has been given to the minimisation of noise. Plant and equipment will be subject to regular inspection and planned preventative maintenance schedules to maintain optimum operational performance.

Current monitoring procedures include regular inspections around the perimeter and operational area of the site to establish whether excessive noise is being produced. These will continue in accordance with current procedures following the variation. Results of noise inspections are recorded as soon as they have been completed.

There have been no noise or vibration complaints relating to the site operations or vehicle movements at the site.

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

Screening of the local area showed designated sites within the relevant distances for an EPR installation with discharges to air and water.

A full assessment of the variation application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the sites.

6.6.1 Assessment of Likely Significant Effect:

The project has been screened for likelihood of significant effects and, taking account of the advice received from protected sites advisors, is considered not likely to have a significant effect on any Natura 2000/Ramsar site when considered alone.

6.6.2 HRA Overall conclusion:

In light of the conclusions of the appropriate assessment, it has been ascertained that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, as documented in section 6 of OGN 200 Form 1.

6.6.3 SSSI Assessment

In addition, we reviewed the water discharge and while the composition of the water discharge is not changing, the temperature may change. The operator confirmed that they would ensure that the temperature of the discharge water is within 2°C of the temperature of the water in the Reens (officially designated as Gwent Levels – Rumney and Peterstone SSSI). This is not likely to damage the interest features of the SSSI.

7 Setting ELVs and other Permit conditions

7.1 Monitoring

The monitoring of the water discharge to the Reens (Gwent Levels – Rumney and Peterstone SSSI) is continuing in this varied permit, with the addition of temperature monitoring. Tables S3.2 and S3.3 have been removed from the permit as they related to monitoring that is no longer required.

7.2 Reporting

Reporting requirements for groundwater monitoring, and surface water monitoring other than at emission point D2 have been removed from the permit in accordance with the removal of the monitoring requirements.

7.3 Raw materials

We have specified limits and controls on the use of raw materials and fuels.

7.4 Waste types

Waste types, descriptions and quantities, which can be accepted at the regulated facility are specified in the permit. The Operator has requested the inclusion of waste code 19 12 10 in table S2.5 of the permit for acceptance at the RDF and SRF processing facility. This code is already included within Table S2.1 at the waste transfer and treatment facility, so it not considered that there is any increase in risk by accepting this waste at the RDF and SRF processing facility.

ANNEX 1: Improvement Conditions

One new Improvement condition has been placed in the permit regarding the Waste Water Treatment Plant and its functionality in the absence of the SWCP which was to provide heat to this process. Full details are in the permit, IC2.

ANNEX 2: Pre-Operational Conditions

None

ANNEX 3: Consultation Responses

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 following statutory and non-statutory bodies were consulted:-

1) Consultation Responses from Statutory and Non-Statutory Bodies

Joint Response Received from Public Health Wales and Cardiff and Vale University Health Board	
Brief summary of issues raised:	Summary of action taken / how this has been covered
Subject to the implementation and enforcement of BAT I would have no grounds for objection based on public health considerations. Our comments are underpinned by an assumption that NRW are satisfied that the methods and outputs supplied in these assessments are in accordance with	The SWCP element of the application has been refused. NRW have reviewed the risk assessments and are satisfied.

current best practice. (Risk Assessments).	Agreed.
There are proposed techniques to control Dust. Emissions, as modelled, do not indicate any breach of relevant air quality objectives.	The ongoing matter of the fire prevention and mitigation plan on this operational site is under review.
We emphasise the need for a fire prevention plan to be agreed by the regulator.	

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	
Brief summary of issues raised:	Summary of action taken / how this has been covered
None	None

b) Representations from Community and Other Organisations

Response Received from	
Brief summary of issues raised:	Summary of action taken / how this has been covered

c) Representations from Individual Members of the Public

Response Received from	
Brief summary of issues raised:	Summary of action taken / how this has been covered