Operating Techniques Update - EPR/PP3993VS

Atlantic Ecopark

Newton Road, Rumney, Cardiff

On behalf of Atlantic Recycling Limited

Date: Jan 2019

Our Ref: JCD0170

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Quality Management

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Revision No.	Date	Reason for Change	Authors Initials
002	February 2017	Addition of SWIP	FB
003	May 2017	Regulator queries	FB
004	January 2019	Schedule 5 response	AH

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JCD 0170-PER-002A

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1 Introduction

1.1 The Applicant

1.1.1 Atlantic Recycling Limited (herein referred to as ôARLõ) currently operates an Ecopark facility at its Newton Road site, Rumney, Cardiff which includes the following activities:-

- Soil Processing Facility (permitted, operational);
- Waste Transfer Station (WTS) with Treatment (permitted, operational);
- Wood Processing Facility (permitted, operational); and,
- Refuse Derived Fuel (RDF) and Solid Recovered Fuel (SRF) Processing Facility (permitted, operational)

1.1.2 ARL is also permitted to store some wastes in the WTS without treatment for example asbestos.

1.1.3 ARL is a part of the Dauson Environmental Group Limited. The group is made up of a series of companies specialising in land regeneration, environmental remediation, demolition, materials recycling, ground works and civil engineering operations.

1.1.4 The original Environmental Permit for the Newton Road site EAWML30347 was issued on the 14th of October 2005 to Neal Soils Suppliers Limited and subsequently transferred to ARL on the 29th of November 2010. The Environmental Permit has undergone four variations following its transfer to ARL; the permit was varied to its current status on the 3rd November 2016 as EPR/PP3993VS/S005.

1.1.5 The Ecopark is currently permitted to accept up to 220,000 tonnes of waste per year in accordance with the current permit for the site. This would increase to 280,000 tonnes per year which is consistent with the previous version of the permit prior to the recent surrender of the IVC activity.

1.2 The Site

1.2.1 The site is located to the south-east of Cardiff City Centre at Atlantic Ecopark which is situated off Newton Road, Rumney. The site is surrounded by a series of drainage ditches/reens and lies within the footprint of a Site of Special Scientific Interest (SSSI). Site access is from the B4239 (Wentloog Avenue) via Newton Road which provides access to the primary road network and M4.

1.2.2 The general site location is shown on drawing JCD 0170-02-Permit Boundary Plan and the site address is:

Atlantic Recycling Limited
Atlantic Ecopark
Newton Road
Rumney
Cardiff
CF3 2EJ

1.2.3 The National Grid Reference of the facility is NGR ST 239 783.

1.3 Proposed Variation

1.3.1 ARL is applying to modify their existing permit. Changes to the permit relate to;

- Treatment of the sites surface water;
- Inclusion of a new dedicated RDF/SRF processing facility separate to the current WTS activity on site including an associated increase in tonnages; and
- Removal of õother specificationsò from Table S3.2 and S3.3.
- Storage of all treated RDF/SRF, loose or wrapped/baled outside a building on impermeable surface with sealed drainage system

1.3.2 There will be no changes to the permitted Wood Processing Facility and the Soil Processing Facility; as such no further reference to these activities is made within this variation application or the associated documentation. It should therefore be assumed at all times that the previously submitted detailed information is still relevant for these activities.

1.3.3 There is no change to the overall area to be occupied by the permitted activities. A site layout plan is included with reference JCD0170-PER-002A.

1.3.4 ARL wishes to install and operate a Waste Water Treatment Plant (WWTP) on site. The WWTP will be designed to handle circa 3.5 l/s equivalent to approximately 100,000 tonnes per annum of surface water and includes biological treatment stages. However, to allow for breakdown and maintenance times and repeated batches, the actual capacity would be in the region of 70,000 tonnes per annum. On this basis the capacity of the facility will exceed 50 tonnes per day and consequently the operation of the WWTP should be included within Table S1.1 as an additional Schedule 1 activity falling under section 5.4(a)(i). The bespoke system is designed to treat ARLõs site surface waters, meeting the numerical limits specified in Table S3.1 of the current permit. The treated waters will continue to discharge via the existing outfall point D2 where water enters the SSSI reen system. The full process description can be found below in section 2.

1.3.5 In order to ensure that the WWTP works to its maximum capacity ARL wish to install a boiler to heat the water in the WWTP. The boilers will use waste wood from the WTS as fuel, this wood

will comprise a mixture of grade A, B and C.[1] Any excess heat generated by the boiler will be used to heat water for general use at the site ie. in the offices. This falls under Schedule 13 of the Environmental Permitting (England & Wales) Regulations 2016 and would usually be regulated by the local authority. In this instance the boiler is an integral part of the WWTP which is a directly associated activity to the wider site activities. It has therefore been agreed with NRW that in this instance the boiler should be regulated by them as part of the overall site activities.

1.3.6 ARL proposes that the operation of the boiler is included within Table S1.1 as a directly associated activity with description D10, D15, R1 and R13.

1.3.7 ARL also wishes to modify the conditions of Table S2.4 ôwaste types and quantities for refuse derived fuel and solid recovered fuel processingôwithin the current Environmental Permit to allow an increase in permitted tonnage, from 40,000 to 100,000 tonnes per annum. An in-vessel composting activity has recently been surrendered which was permitted to accept 60,000 tonnes per annum. The increase in the tonnage of waste for RDF/SRF processing is consistent with the overall tonnage previously allowed at the site. The new RDF/SRF processing facility will be a state of the art processing facility specifically designed to accept predominantly category 19 wastes including waste codes 19 12 10 sand 19 12 12 which generally contain greater volumes of recyclates and are more appropriate for the production of SRF and RDF. A dedicated building will be constructed in accordance with planning permission 08/00626 to house the new SRF processing plant and the mobile plant currently at the WTS to produce RDF. The Facility will provide flexibility in terms of the products processed and outputs generated. The Facility will produce both RDF and SRF, dependent on the customersôrequirements as well as a number of recyclate streams.

1.3.8 It is recognised that both the new RDF/SRF Processing Facility and the WWTP will constitute an installation under the Industrial Emissions Directive (IED) as a Section 5.4A(1)(b)(ii) Facility and a Section 5.4A(1)(a)(i) facility respectively and as such is required to conform to Best Available Techniques for such activities in accordance with Environment Agency Guidance S5.06 for the Recovery and Disposal of Hazardous and Non-Hazardous Wastes. Only the boiler is considered to be a directly associated activity under the IED, none of the other currently permitted activities are considered to be directly associated activities under the IED.

1.3.9 Waste brought to the site under 19 category EWC codes described above will be directed to the RDF/SRF processing facility for processing. This will reduce the volume of waste subject to internal transfer. The WTS will continue to accept predominantly 17 category EWC codes. The full process description can be found below in section 2.

1.3.10 Should waste be brought to the site under a 191212 category EWC code that, on inspection is more suited to treatment at a part of the Facility it was not originally accepted at, wastes will be transferred within the site.

[1] As defined in PAS 111:2012 Specification for the requirements and test methods for processing waste wood, WRAP/BSI, 2012

1.3.11 Waste will only be weighed upon arrival at the site, if waste is transferred between parts of the site it will not be weighed again to avoid double counting of waste tonnages.

1.3.12 ARL requests the removal of the ñother specificationsò from table S3.2 and table S3.3 to be replaced by a new IMS procedure the justification for which is set out in section 5.

1.3.13 The above proposed changes to the Environmental Permit are considered to represent a Substantial Variation, as confirmed by Natural Resources Wales pre-application discussions held on site on 20th of July 2016 (Appendix 1).

1.3.14 The construction, commissioning and infrastructure works for the new facility will take place in accordance with an approved Construction Quality Assurance (CQA) Plan. ARL plan to complete the build by December 2017.

1.4 Guidance and Legislative Requirements

1.4.1 To support this application to vary the current Environmental Permit, ARL are required to confirm whether their proposed operations will take place in line with standards set by any relevant Environment Agency Sector Guidance Note and legislation and therefore represent Best Available Techniques (BAT). Where the proposed operations will deviate from the relevant Guidance Note or where there is no Guidance for the proposed operations, the permit application must include:

- A description of the operations that will take place at the site; and
- A justification of the measures that will be used to control emissions from the process(es).

1.4.2 In relation to the proposed waste management activities at the Atlantic Ecopark, there are a number of documents that provide technical guidance for the proposed operations and these are identified below:

- EPR1.00 How to Comply with your Environmental Permit, Natural Resources Wales, October 2014;
- Fire Prevention and mitigation plan guidance ï Waste, Natural Resources Wales, August 2017;
- Environmental Permitting Guidance The Waste Framework Directive, DEFRA, March 2010;
- Section Guidance Note S5.06: Guidance on the Recovery and Disposal of Hazardous and Non-Hazardous Waste, Environment Agency 2004.
- BREF, Integrated Pollution Prevention and Control Reference Document on BAT for the Waste Treatments Industries, August 2006.
- Best Available Techniques (BAT) Conclusions for Waste

2 In Process Controls

2.1 Initial Procedures

Pre-Acceptance procedures to assess wastes

2.1.1 ARL has established pre-acceptance procedures which have been approved by NRW under the existing permit. It is not proposed to make changes to the currently approved pre-acceptance system as these procedures would remain appropriate following this variation.

2.1.2 All acceptance routes will continue to be subject to pre-acceptance evaluation (either as part of any contract or enquiry arrangements) prior to arrival on site and it will be recommended that all deliveries be booked in for acceptance prior to arrival on site. Delivery to site without pre-booking may result in materials being rejected from the site / delayed at the weighbridge.

2.1.3 The following information will be requested from all customers prior to booking in for acceptance:

- Waste EWC Code;
- Process generating SIC Code (where appropriate);
- Hazardous Properties (if any);
- Delivery container type (where appropriate).

Waste Acceptance Procedures

2.1.4 Waste acceptance procedures will similarly be carried out in accordance with established and approved procedures which are summarised below.

2.1.5 All vehicles entering the site will drive to the weighbridge and take instructions from the Weighbridge Operator. Where appropriate first time visitors will be required to confirm their registration as a waste carrier to the site and will be issued with instructions on health and safety and site procedures. Visitors other than customers bringing waste to the site must sign the Visitors Book before proceeding onto the site, and sign out prior to leaving.

2.1.6 In order to fulfil Duty of Care requirements, drivers of vehicles bringing waste to the site must provide a waste transfer note detailing the source location and description of the waste they are carrying. Seasonal duty of care notes are provided by some customers for inputs where the producer, description of waste, approximate quantity and carrier does not vary. A copy of these notes will be held at the site office.

2.1.7 The site operative will question the driver if unsure about the waste description to ensure it complies with the requirements of the Environmental Permit for the site and any associated booking. A visual check will be made, whenever possible, to ensure an adequate description has been provided.

2.1.8 If the site operative is satisfied that the waste is acceptable at the site within the terms of the Environmental Permit, the customer will be directed to the appropriate discharge location. Waste categorised as category 19 EWC Code wastes will be directed towards the new Facility.

2.1.9 If the site operative is not satisfied by either the waste description or the content of the incoming load, the vehicle will be directed to a waste checking area. The load will be inspected thoroughly to decide on its acceptability.

2.1.10 If the site operative is satisfied that the waste is not acceptable under the terms of the Environmental Permit, entry to the site will be refused and the registration number of the vehicle recorded separately in the site diary. As noted above, if on inspection wastes accepted at the RDF/SRF processing facility are considered more appropriate for the WTS these will be transferred and vice versa.

Waste Inspection

2.1.11 Once the vehicle has discharged its load, a site operative will visually check its contents to ensure no unpermitted waste is included. This visual check will continue whilst the waste is being moved into the correct waste processing area.

Unacceptable Waste

2.1.12 If the site operative identifies wastes for which the site is not permitted or is unsure of its acceptability, the site manager will be called. The registration number of the vehicle that discharged the waste will be taken; 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 unpermitted 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. Such incidents will be recorded in the Site Diary for inspection as appropriate.

Dangerous Substances

2.1.13 Should dangerous substances be 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.

2.1.14 On assessment of the material, tipping will continue in the alternative-tipping zone.

2.1.15 NRW will be informed immediately and advice sought on how to deal with the materials.

2.1.16 Should there be any reason to suspect that fumes or leakage is likely to affect site operatives and customers the site area will be evacuated and the fire service called out and specialist advice will be sought from them.

2.1.17 Appropriate actions to remove the substances from the site will be taken following consultations with the fire service and NRW.

Waste Quantity Measurement Systems

2.1.18 Quantities of incoming wastes to the facility shall be recorded in metric tonnes utilising the site weighbridge via the existing access road.

2.1.19 Quantities of outgoing materials shall also be recorded using the weighbridge.

2.1.20 All site records will be collated and stored at the site office so to ascertain waste throughput at the site.

2.1.21 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. As described above, waste will be inspected upon arrival and directed to the most appropriate facility. It is not, therefore, anticipated that a significant amount of waste will be transferred around the site.

2.1.22 The weighbridge is calibrated annually in accordance with the manufacturerõs recommendations.

Waste Storage

2.1.23 All wastes will be stored in line with the requirements of the relevant Directives and associated guidance documents as listed in Section 1.4 above.

2.1.24 A fire prevention and mitigation plan is in place for the activities currently taking place at the site. This has been updated to include all of the new elements included in this variation and a copy is at Appendix 5.

2.1.25 RDF and SRF produced will be stored in stockpiles in accordance with the Fire Prevention Plan at Appendix 5.

2.1.26 Storage and treatment of wastes within the RDF/SRF processing facility comprise of the following activities:

- D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced);
- R13: Storage of waste consisting of materials intended for submission to any of the õRô operations listed in Annex IIB of the Waste Framework Directive (excluding temporary storage, pending collection, on the site where it is produced);
- R3: Recycling / reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes);and
- R5: Recycling / reclamation of other inorganic materials.

2.1.27 Post processing, loose and baled waste will be stored in the transfer station or the area known as field 1 on impermeable surface with sealed drainage, depending on availability of storage location.

2.1.28 All storage areas will be provided with spill kits.

Commercial and Industrial Wastes

2.1.29 Wastes being accepted into the WTS will be directed to an appropriate tipping location on the impermeable hardstanding area, adjacent to the current waste sorting process.

2.1.30 From here, wastes will be inspected and sorted for the removal of bulky or unsuitable wastes. Bulky wastes will be added to the appropriate waste type stock piles for onwards transportation. Unsuitable or non-conforming wastes will be quarantined and removed from site at the first available opportunity

2.2 Waste Transfer Station

Process Changes

2.2.1 The WTS will continue to operate as currently permitted and agreed with NRW. Once the RDF/SRF processing facility is operational loads of waste categorised as a category 19 waste code including 19 12 10 and 19 1212 will be automatically directed to it rather than to the WTS. This will reduce the volume of internal transfer between the WTS and new facility.

2.3 Materials Recycling Processing Facility

Overview

2.3.1 The new RDF/SRF processing facility will be located south of the WTS and extending to the east. The new Facility will process waste that will mainly constitute papers, plastics, cardboard and other packaging via the plant and machinery incorporating the latest technology.

2.3.2 The new facility will be 150 metres in length with a width of 30 metres and a height of 14.4 metres to the eaves of the building. The facility will be constructed on an impermeable hardstanding, with a fully sealed drainage system. Rain water will be collected from the roof, will be re-used for dust suppression on-site. During prolonged periods of rain, if storage capacity is exceeded, collected rain water will be discharged directly to the reens or field ditches.

2.3.3 The height of the proposed building is critical in order to house the new plant and machinery which works far more efficiently at the height proposed. The basic functionality of the plant relies on material being initially raised by conveyor belt to allow the material to be gravity fed through the processing stages, thus minimising the need conveyors and allowing the plant to discharge into hoppers or bays without the need for additional mechanical handling machinery with associated overall energy efficiency savings.

2.3.4 The SRF processing and end product will conform to the relevant CEN Technical Standard. SRF product will be produced in accordance with a contract specification in terms of calorific value and moisture content. It is noted that there is no legal definition of RDF however the DEFRA trial definition states: ñRefuse derived fuel (RDF) consists of residual waste that is subject to a contract with an end-user for use as a fuel in an energy from waste facility. The contract must include the end-userôs technical specifications relating as a minimum to the calorific value, the

moisture content, the form and quantity of the RDFò It is therefore not necessary for material to go through any specific process in order to be RDF.

RDF and SRF Process Description

2.3.6 A written description of the process for the production of RDF and SRF follows and a graphic description is at appendix 4.

2.3.7 Category 19 EWC waste codes approved for acceptance criteria as described above will be tipped within the Waste Reception area. Residual materials, resulting from the WTS, will be transferred to RDF/SRF processing building waste reception area by loading shovel and mechanical conveyor belt where they are stockpiled, loose inside the building.

2.3.8 If RDF is being produced the current mobile plant on site will be used to shred the waste and remove metals.

2.3.9 If SRF is being produced the following process occurs:

2.3.10 Waste from the stock pile area is fed into a slow speed shredder for initial sizing to a uniform 300mm. Material then passes under an over band electro magnet to remove ferrous metals. Metals removed will then be transferred to the WTS and stored in accordance with the current permit conditions.

2.3.11 Material then passes through a 3D Combi Flip Flow screen to remove the <10mm ôfinesô The fines will then be transferred to the WTS for storage in accordance with the current permit conditions. Removal of fines increases the calorific value of the SRF product and ensures it meets the contract specification.

2.3.12 The material that is 10 to 40 mm then passes into a 2 way drum separator and is divided into stone and light fraction. The stone is bulked up and sent for recovery. The light fraction is bulked up for RDF feedstock. Removal of the stone and light fraction increases the calorific value of the SRF product and ensures it meets the contract specification.

2.3.13 The 40 to 300 mm material passes through a 3 way drum and a manual quality pick. The stone is sent for recovery, mid-heavy product is sent for recovery and incompliant SRF material is bulked up for RDF feedstock. Additional removal of stone and non-compliant material increases the calorific value of the SRF product. Material is deemed non-compliant in accordance with the contract specification.

2.3.14 The remaining 40 to 300 mm light fraction is passed through a high speed shredder to become 30 mm SRF product that will then either be stored loose or baled depending on customer requirements and the contract specification.

2.3.15 Baling and wrapping is an automated system which wraps the bales in high density plastic wrap.

2.3.16 The bales are then tied with plastic / steel ties. These are interchangeable depending on the nature of the wrap (plastic for SRF and RDF bales and steel for recyclable / recoverable bales i.e. plastics).

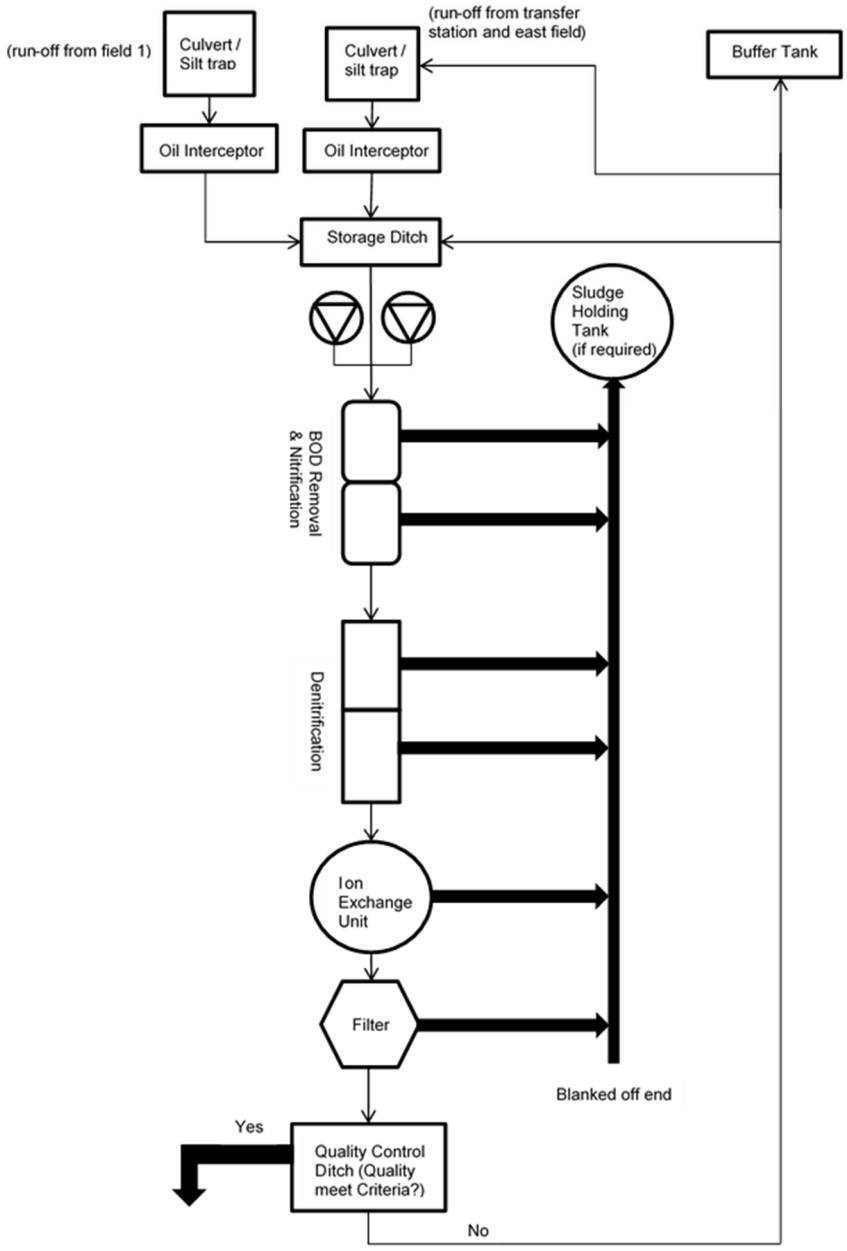
2.4 Water Treatment Plant

Overview

2.4.1 The WWTP has been specifically designed to treat the sites surface water to the limits specified in Table S3.1 of ARL's environmental permit. The WWTP will receive all surface waters from the site (other than rain water collected from the roof the RDF/SRF processing facility), treating the effluent before its controlled release into the local water environment at D2.

2.4.2 The WWTP consists of a series of treatment phases, which collectively deliver a process to achieve the desired effluent quality standard. The biological treatment phase is the primary treatment within the system. Figure 1.1 identifies the key phases in water treatment.

Figure 1.1 Water Treatment Plant Process



Water Treatment Process Description

2.4.3 The unit comprises of two multi cellular tanks, tank one, known as the nitrification tank, reduces the Biochemical Oxygen Demand (BOD) and converts excess ammonia to nitrite, then nitrate and then tank two, known as the denitrification tank, removes the nitrate.

The initial nitrification phase will focus on the parameters below:

- dissolved oxygen;
- ammoniacal nitrogen;
- nitrite;
- nitrate;
- BOD;
- total suspended solids and
- pH.

2.4.4 Nitrification is a biological treatment process to remove ammonia from the incoming wastewater. This is achieved using two different types of autotrophic bacteria (Nitrosomonas and Nitrobacter). The Nitrosomonas bacteria oxidise ammonia to nitrite and then the Nitrobacter oxidise nitrite to nitrate.

2.4.5 Both Nitrosomonas and Nitrobacter can only develop biochemical activity in an environment containing dissolved oxygen.

2.4.6 The formed nitrate can be used by most micro-organisms in the biomass' sludge as a substitute for dissolved oxygen. In an anoxic environment, characterised by the presence of nitrate and the absence of dissolved oxygen, the nitrate ion can be reduced by organic matter to nitrogen gas: this process is called denitrification.

2.4.7 The alkalinity consumption by nitrification may result in a reduction of pH. The magnitude of this reduction depends on the initial alkalinity and the oxidised ammonium concentration. During denitrification, half of the alkalinity consumption for nitrification is recovered. Thus the pH may not require correction when the full process is achieved.

2.4.8 If the first biological reactor is kept completely aerobic, the nitrified mixed liquor will need to flow to the second tank that acts as a dedicated settlement zone, where an adequate environment can be established for denitrification to occur. This will occur as soon as the oxygen is consumed.

2.4.9 As a result of the development of denitrification in the settler, nitrogen bubbles will be formed and these will rise to the liquid surface. To optimise the treatment process flows will be retained within the system for a minimum of four hours.

2.4.10 Each biological reactor operates as a submerged aerated filter (SAF) for both the nitrification and denitrification process.

2.4.11 Pumped flow from the storage ditch enters the first reactor via a high level inlet pipe and flows vertically via a down-pipe to enter above the membrane diffuser, then upwards through the

crossflow block media. Flow exits the first cell through a cut out in the dividing wall, then down another pipe in the second reactor cell. The same flow path is then repeated through the remaining reactor cells. In this way, all flow is upwards, i.e. concurrent with the air.

2.4.12 Air is provided via a set of duty/standby 3kW side channel air blowers located in the adjacent enclosure. Air enters each reactor cell via removable fine bubble membrane diffusers. Butterfly valves are fitted to the airline to each manifold to allow adjustment to ensure the same air flow pattern in all four reactor cells when observed above via the inspection hatches.

2.4.13 Each reactor cell has a valve connected to the sludge outlet connected to a common sludge outlet pipework. One end of the outlet pipework is blanked off for cleaning purposes, whilst the other end is connected to the sludge holding tank. A 4 inch bauer coupling can be attached to this pipework for tankering away the SAF contents (sludges) if this is operationally required.

2.4.14 Water is heated to an optimum temperature of approximately 20°C using energy from the boiler which will be maintained throughout the process.

2.4.15 Tank water level monitors will provide additional mechanism for leak detection.

2.4.16 Heavy metals are ionised during the process in the ion exchange unit. During the process they become attached to ion exchange resin, which once spent is replaced. Resin removed will be disposed of at an appropriate facility.

2.4.17 The water then passes to a final filter for final polishing. Water passing out of the filter will then be discharged to the quality control section of the settlement ditch.

2.4.18 The settlement ditch runs between discharge points D1 and D2 and extend south to the west of the transfer station as shown in Drawing JCD0170-086. It is naturally lined with very low permeability clay which will provide containment for the water until it is released into the environment at D2. Previously collected samples from the natural clay on site (April 2014) showed a coefficient of permeability range of 3.8×10^{-11} to 6.2×10^{-11} m/s, within the acceptable values for landfill liners indicating very low permeability of the ditch (see appendix 6).

2.4.19 The technology Provider, Hydrologica, has indicated that it is essential to the success of the process that the ditch retains its natural status and has confirmed that artificial liners will interfere with the natural biology of the system and the efficiency of its function (see Appendix 7).

2.4.20 The settlement ditch will be divided into 2 sections: the quality control section and the storage section. Water will be pumped from the WWTP to the quality control section and will be tested for chemical properties and temperature. If all necessary parameters are met water will be pumped to point D2 and released. If any parameter including temperature is not met the culvert in the weir separating the two sections will be opened allowing the water to pass into the storage section of the settlement ditch and from there either pumped back into the WWTP, into the buffer tank if no capacity existed in the WWTP at the time or possibly recirculated to the culvert that receive the surface run off from the operational areas of the transfer station before discharge to the oil interceptor and from there to the treatment system. The process of recirculation cools the

water whilst the bioreactor takes a continual feed from the stored section and acts as a heat exchanger.

2.4.21 The biomass boiler will be used to heat the water going into the WWTP. A full process description and associated risk assessment is at Appendix 8.

2.4.22 Any sludge and solids collected in the settlement tanks will be removed by vacuum tanker as necessary and disposed of at an appropriate facility.

2.5 Management

2.5.1 ARL will continue to operate under its existing EMS which has been agreed with NRW. This will be reviewed and updated prior to commencement of the new installation.

2.5.2 Procedures are in place for documentation and record management; non-conformance; competence, training and awareness; and monitoring and measurement.

2.5.3 The Technically Competent Manager for the site will not change as a result of this variation as the current TCM is suitably qualified for the new facility.

2.6 Raw Materials

2.6.1 The RDF/SRF processing facility is primarily fed by incoming waste, and does not require significant additional raw materials for their operation other than the fuel oil for the plant on site and oils and greases for maintenance works. The sorted recyclates like wood, cardboard and hard plastics are re-processed therefore diverting it from the traditional solution of landfill.

2.6.2 The WWTP does not require significant amounts of raw materials.

2.6.3 The boilers will be fed by waste wood from the WTS and does not require additional raw materials for operation unless insufficient amounts are available from the WTS. The use of grade C wood for fuel will divert this material from landfill.

2.6.4 There will be no change to the water usage on site. However, collected rain water from the new building will be used for dust suppression across the whole permitted site. There will therefore be a reduction in the amount of fresh water usage.

2.7 Energy Efficiency

2.7.1 The SRF processing plant will be state of the art and more energy efficient than the current plant. It is intended that RDF production will reduce as contracts are entered into for SRF production.

2.7.2 The WWTP has low energy usage and is not expected to impact usage at the site.

2.7.3 The use of excess heat from the boilers to heat water will eliminate the need for additional energy usage in heating the waste water within the WWTP.

2.8 Waste Management

2.8.4 Waste produced at the site is limited to that from the administrative activities of the site. This is minimal and is transferred directly to the WTS for sorting along with waste accepted at the site from commercial operators.

2.9 Closure and Decommissioning

2.9.1 The Ecopark Facility is made up of a series of mobile plant units that can be dismantled and removed / replaced from site as and when required.

2.9.2 There are no underground tanks or pipework.

3 Emissions Control and Abatement

3.1 Point Source Emissions to Air

3.1.1 The boilers connected to the WWTP will introduce a point source emission to air. This emission has been assessed as agreed with NRW. The assessment is set out in Appendix 8.

3.1.2 There will be no point source emission to air from other activities regulated under this permit.

3.2 Point Source Emissions to Surface Water

3.2.1 The discharge point D2 is already contained within the environmental permit and 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 set out in this document. The WWTP is designed to treat the water to meet the limits in the permit and will therefore allow for discharge into the reens which is currently being prevented.

3.2.2 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 this event the excess water will be discharged directly into the reens or field ditches.

3.2.3 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.

3.2.4 The remainder of the site drains naturally.

3.2.5 In line with the requirements of Environment Agency Sector Guidance Note S5.06 for the Recovery and Disposal of Hazardous and Non-Hazardous Waste 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 as described above that will be pumped to the WWTP.

3.3 Point Source Emissions to Groundwater

3.3.1 There will be no point source emissions to groundwater from the site operations.

3.4 Point Source Emissions to Land

3.4.1 There will be no point source emissions to land from the waste operations on site.

3.5 Fugitive Emissions to Surface Water and Groundwater

3.5.1 The site will be engineered to provide robust containment systems to ensure that there will be no fugitive emissions to surface water or groundwater. In line with Sector Guidance Note S5.06 and BREF. Appropriate site surfacing and drainage facilities will be provided as detailed above and

subject to regular inspections and maintenance. There are no proposed changes to the drainage in place at the site.

3.5.2 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.

3.5.3 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.

3.6 Fugitive Emissions to Air

3.6.1 The operation of the WWTP is not likely to generate fugitive emissions to air such as dust / particulates. However, there is the potential for such fugitive emissions to be generated during the RDF/SRF processing. This activity is to take place wholly within a new purpose built building and therefore any such emissions are likely to be contained within the building rather than released into the wider medium. The building will be fitted with extractors which will ensure that dust from 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.

3.6.2 The monitoring of dust and particulate generation at the facility will be visual and will be controlled with the use of damping down of waste materials using a tractor / plant and a bowser.

3.6.3 In the event of a failure of the filters within the boilers there is the possibility of fugitive emissions to air. These filters will be regularly maintained as part of the EMS and all employees will be vigilant for visual signs of failure. Any observed failure will be reported and action taken immediately to stop the fugitive emissions occurring.

3.7 Odour

3.7.1 As identified in the site Environmental Risk Assessment (Appendix 2) the site will not pose a significant risk of odour related impact due to the nature of the incoming waste streams, the containment of the treatment process within a building, the baling of processed material stored outside the building, the location of the site, away from potentially sensitive receptors and the risk management measures proposed.

3.8 Noise and Vibration

3.8.1 As identified in the site Environmental Risk Assessment (Annex 1) the proposed waste activity is not considered to represent a significant risk of noise or vibration due to the nature of the operation, the remote location of the site and the risk management measures proposed. In addition it is intended that the building containing the RDF/SRF processing facility will be insulated for sound.

4 Best Available Techniques

4.1.1 The following areas have been considered under the relevant sections of S5.06 ôGuidance for Recovery and Disposal of Hazardous and Non Hazardous Wasteô and the following best available techniques have been considered to ensure protection of the environment:-

Consideration	Proposal	BAT/BREF
Pre acceptance procedure	See s2.1.1 -2.1.3 above. The pre acceptance procedure in place at the site is considered to comply with BAT.	S5.06 s2.1.1
Acceptance of waste	See s2.1.4 ï 2.1.9 above.	S5.06 s2.1.2
Waste storage	See section 2.1.21 above.	S5.06 s2.1.3
Treatment	Waste is treated in accordance with the operating techniques in s2.3 above.	S5.06 s2.1.4
Emission Control	See s3 above.	S5.06 s2.2
Management	A Technically Competent Manager is appointed for the site and has the appropriate WAMITAB qualification and continuing competence certification.	S5.06 s2.3
Raw Materials	There is very little use of raw materials, minimal water usage.	S5.06 s2.4
Energy	Records of fuel and energy usage maintained to enable annual reporting	S5.06 s2.7
Accidents	Site information and contacts list included as part of the EMS. Companyôs own generic Site Operational/Accident Procedures in place driven by risk assessment.	S5.06 s2.8
Impact Assessment	H1 based risk assessment in place see appendix 2.	S5.06 s4.1
Habitats Regulations	A habitats assessment is in place see appendix 2.	S5.06 s4.3
Monitoring	All monitoring requirement s for the site have been agreed with NRW and are within the existing waste operation permit. Some changes to the monitoring are requested in section 5 below, however these are not as a result of the inclusion of the new installation. The monitoring programme is compliant with BAT.	S5.06 s2.10
Installation issues	Waste accepted at the site for non-listed activities will be separated at the accepted stage and will be directed to the WTS for appropriate treatment or storage. There are no directly associated activities.	S5.06 s2.12

5 Surface and Groundwater Monitoring

5.1 Current Situation

5.1.1 Table S3.2 contains the requirement to monitor surface water at specified points SW3 to SW17 as per Drawing Number JER5040-002b which is included in the Permit at Schedule 7. The table specifies: the monitoring points; the parameter to be measured; the frequency; and the method. It also contains õother specificationsò which are the former Countryside Council for Wales (CCW) trigger levels for the Gwent Levels. The surface water monitoring points are not discharge points and no point source emissions occur. They are therefore regulated under condition 3.2.1 õsubstances not controlled by an emission limitò

5.1.2 Table S3.3 contains the requirement to monitor groundwater at specified points WS1 ï WS5 as per Drawing Number JER5040-002b which is included in the Permit at Schedule 7. The table specifies: the monitoring points; the parameter to be measured; the frequency; and the method. It also contains õother specificationsò which were derived from a limited data set and were intended to be reviewed once further data had been collected. The groundwater monitoring points are not discharge points and no point source emissions occur. They are therefore regulated under condition 3.2.1 õsubstances not controlled by an emission limitò

5.2 Requested change

5.2.1 RPS has carried out a comprehensive characterisation of the water quality at the site. A Baseline Water Environment and Monitoring Report (BWEM) dated February 2017 was submitted to NRW in an email to Kelly Sherratt from Dr Ahlim Hashm dated 9 February 2017 (report at Appendix 9). ARL request the following changes be made in relation to the monitoring requirements in Tables S3.2 and S3.3 as a result of the recommendations made in that BWEM.

Surface Water Monitoring

5.2.2 All non-point source monitoring requirements should be moved out of the permit into an IMS procedure. Monitoring at points SW3 to SW17 is for fugitive emissions not controlled by emission limits. The õother specificationsò within the table are not compliance limits however there has been confusion as to their status and a tendency for them to be treated as such.

5.2.3 ARL request that the requirement to monitor at points SW03, SW10, SW11 and SW13 be removed. These locations do not form part of the field ditch / reen system of the SSSI and some are regularly dry (SW03) and hence do not fall under the management requirements of the BEMP. In addition the ditch in which SW10 and SW11 are located forms an integral part of the waste water treatment system as described in section 2.4 above. It is inappropriate for water to be tested within the treatment system. SW13 is completely outside the permit boundary and has no connectivity to the surface water systems on site. There should be no requirement to monitor at this location.

5.2.4 The water quality summary provided in Section 4.3 of the BWEM identified certain parameters at a number of locations where location-specific trigger levels are particularly important for the purpose of ongoing water quality evaluation and screening as part of routine reporting required. The nature of location specific trigger levels are summarised in Table 5.3 of the BWEM and cover those parameters where baseline variability has resulted in former CCW trigger levels to be exceed although no external source of event can be established as a likely cause. It is proposed that the levels to be incorporated into the IMS procedure for these parameters be agreed with NRW.

5.2.5 Considering the highly variable and often very low concentrations of Dissolved Oxygen (DO) observed throughout the system, it is recommended that DO concentrations are no longer screened against former CCW trigger levels. However, DO data will continue to be collected and presented in order to identify trends of concern or events should they occur.

Groundwater Monitoring

5.2.6 As presented in Section 3.5 of the BWEM, porewater within the Tidal Flat Deposits (TFD) and localised perched groundwater within the Made Ground cannot be considered to constitute a receptor for the consideration of water environment risk on the site. As the groundwater in the Made Ground and TFD is not a receptor, it is inappropriate that the groundwater dataset is screened against non-risk based limits for the purpose of determining permitting compliance. As such ARL request that the groundwater compliance assessment is removed from the Permit.

5.2.7 ARL propose that groundwater monitoring is ceased but additional field ditches are added to the annual biological monitoring in order to provide greater site-wide coverage. These would be agreed with NRW as part of an IMS procedure.

Drawings

Appendices

Appendix 1

Pre-application meeting note

Appendix 2

Environmental Risk Assessment

Appendix 3

Baseline Report / Application Site Condition Report

Appendix 4

Process description flow charts for RDF and SRF

Appendix 5

Fire Prevention Plan

Appendix 6

Information regarding low permeability of settlement ditch lining

Appendix 7

Information relating to WWTP

Appendix 8

Schedule 13 SWIP Application

Appendix 9

Baseline Water Environment and Monitoring Report & Biodiversity and Environment Management Plan