

FCC Waste Services Ltd
Greengairs Landfill
Permit variation
PPC/W/20041

Draft for Consultation

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1 NON TECHNICAL SUMMARY OF DETERMINATION

FCC Waste Services (UK) limited proposes to install a reverse osmosis (RO) treatment process that will be used to remove the potentially polluting contaminants from surface water run-off produced as a result of incinerator bottom ash (IBA) activities at Greengairs Landfill Site. The treatment process is based on a reverse osmosis system that removes organic and inorganic contaminants from the IBA surface water run-off. The RO Plant will be designed to produce a treated effluent allowing for discharge to an unnamed tributary of the Cameron Burn.

The proposed RO plant will be located on part of the landfill site and sits within the boundary of the existing leachate treatment lagoons. The wider landfill site is set within countryside predominantly affected by historic industrial mining activities. East Loch, a large water body located to the northeast of the site, is formed within a void space from opencast mining, with several underground mine entrances filled with water present at the bottom.

Currently, IBA run-off is being collected, stored and tankered away for appropriate treatment and disposal. The RO plant will be able to treat the run-off from the current and proposed IBA activities.

The application will result in a variation application of Greengairs Landfill Site which operates under PPC/W0020041. The variation will result in an addition of a listed activity to the PPC permit, treatment for the physico-chemical treatment of non-hazardous waste for disposal over 50 tonnes/day and so is a listed activity within the Pollution Prevention and Control (Scotland) Amendment Regulations 2014. Directly associated activities as a result of the permit variation include for the storage of IBA surface-water run-off and discharge of effluent to the surrounding watercourse.

The new RO process will facilitate the treatment of the run-off from the IBA treatment activities to reduce organic and inorganic contaminants. The end-products of the RO process will be an aqueous filtrate that is capable of being discharged to surface water and a small volume of aqueous concentrate that will be removed by tanker for off-site treatment/disposal. Discharge will be at the WP0002 emissions and monitoring point as shown in drawing ref.4875-CAU-XX-XX-DR-V-1801. The annual maximum throughput of the Caulmert Ltd4875-CAU-XX-XX-RP-V-03003April2027 FCC Waste Services (UK) Limited Supporting Document Greengairs Landfill Site RO facility will be 73,000 tonnes per annum. The layout of the proposed RO plant and pipeline is shown on Drawing ref. 470A328 'RO Plant Plan', contained within the application.

In preparing this PPC application an evaluation of the potential environmental and health impacts from the RO process were undertaken and it was concluded that there was no detrimental impact on the environment or human health in relation to overall site operations as a result of RO plant.

The assessment indicates that the RO process:

- Significantly reduces the volume of IBA run-off requiring final disposal at offsite treatment facilities;
- Significantly reduces the number of tanker movements associated with the removal of IBA surface water run-off for off-site treatment/disposal and in doing reduces the environmental and social impact associated with the vehicle use;
- Has no overall detrimental impact in relation to the environmental or health impact offsite operations.

Glossary of terms

BAT - Best Available Techniques
CO - Coordinating Officer

ELV - Emission Limit Value
 IBA - Incinerator Bottom Ash
 RO - Reverse Osmosis
 MCERTS - Environment Agency's Monitoring Certification Scheme for environmental permit holders.
 MCERTS is used to approve people, instruments and laboratories.

2 EXTERNAL CONSULTATION AND SEPA'S RESPONSE

Is Public Consultation Required - yes

<i>Advertisements Check:</i>	<i>Date</i>	<i>Compliance with advertising requirements</i>
Edinburgh Gazette	14 October 2021	YES
Airdrie And Coatbridge Advertiser	14 October 2021	Yes

Officer checking advert: JC

No. of responses received: None

Summary of responses and how they were taken into account during the determination:

Not applicable

Summary of responses withheld from the public register on request and how they were taken into account during the determination:

Not applicable

Is PPC Statutory Consultation Required – YES

Food Standards Agency: Consulted. No response received.

Health Board: NHS Lanarkshire consulted. No response received.

Local Auth: North Lanarkshire Council Consulted. The following response was received
 15 March 2022:

I refer to your email of 8 September 2021 consulting the council on the above application to vary the conditions of the PPC to include a reverse osmosis plant. I appreciate that this was some time ago and that the council's comments are probably no longer relevant, and I apologise for the delay in responding. However, for the sake of completeness the council has no objection to the application. At the time we were ourselves dealing with planning application 21/00953/FUL for the reverse osmosis plant, which was duly approved on 22 October 2021.

Scottish Water: Not consulted.

Health and Safety Executive: Not consulted.

Scottish Natural Heritage (PPC Regs consultation): Consulted. No response received.

Discretionary Consultation - None
Enhanced SEPA public consultation - None
'Off-site' Consultation - None
Transboundary Consultation - None

3 ADMINISTRATIVE DETERMINATIONS
<i>Determination of the Schedule 1 activity</i>
<p>The following change is proposed to the Schedule 1 activity.</p> <p>As per application - Section 5.4 Part A(1)(a) (ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment is anaerobic digestion) involving one or more of the following activities and excluding covered by the council directive 91/271/EEC concerning urban waste water treatment (ii) physicochemical treatment</p>
<i>Determination of the stationary technical unit to be permitted:</i>
The installation of a reverse osmosis treatment plant.
<i>Determination of directly associated activities:</i>
The physiochemical treatment of leachate using a reverse osmosis treatment plant.
<i>Determination of 'site boundary'</i>
Not applicable here. No change proposed to the 'site boundary'.

4 INTRODUCTION AND BACKGROUND

4.1 Historical Background to the activity and variation

4.2 Description of activity

Greengairs Landfill is a landfill for non-hazardous waste. In addition to the landfill activities, the Permit also allows for the storage of Incinerator bottom ash for subsequent treatment to produce recycled aggregates, as well as the treatment of leachate in a leachate treatment plant.

Outline details of the Variation applied for

FCC Waste Services (UK) Limited proposes to install a reverse osmosis (RO) treatment process that will be used to remove the potentially polluting contaminants from surface water run-off produced as a result of incinerator bottom ash (IBA) activities at Greengairs Landfill Site. The treatment process is based on a reverse osmosis system that removes organic and inorganic contaminants from the IBA surface water run-off. The RO Plant will be designed to produce a treated effluent allowing for discharge to an unnamed tributary of the Cameron Burn.

The proposed Reverse Osmosis (RO) Plant will improve the current management of liquid run-off produced from the IBA storage and processing area, using a non-biological technique to extract clean water from the aqueous solution of principally inorganic contaminants that constitute the run-off. The end-products of the RO process will be a cleaned aqueous permeate that is capable of being discharged to surface water (within permit compliance limits), and a small volume of aqueous concentrate that will be removed by tanker for off-site treatment/disposal. Following IBA run-off treatment, 'cleaned' permeate will be discharged to surface water, into a tributary of the Cameron Burn, via discharge point W2/WPB.3.3.2

The IBA run off is a well characterised liquid, with elevated sodium and chloride but no elevated levels of any hazardous parameters. Not hazardous but has potential to raise sodium, chloride another inorganic substance levels in surface water or groundwater if it was to enter the water i.e. cause freshwater to become briny. IBA run-off analysis results are provided in the application, Appendix 1 RO process & indicative BAT review.

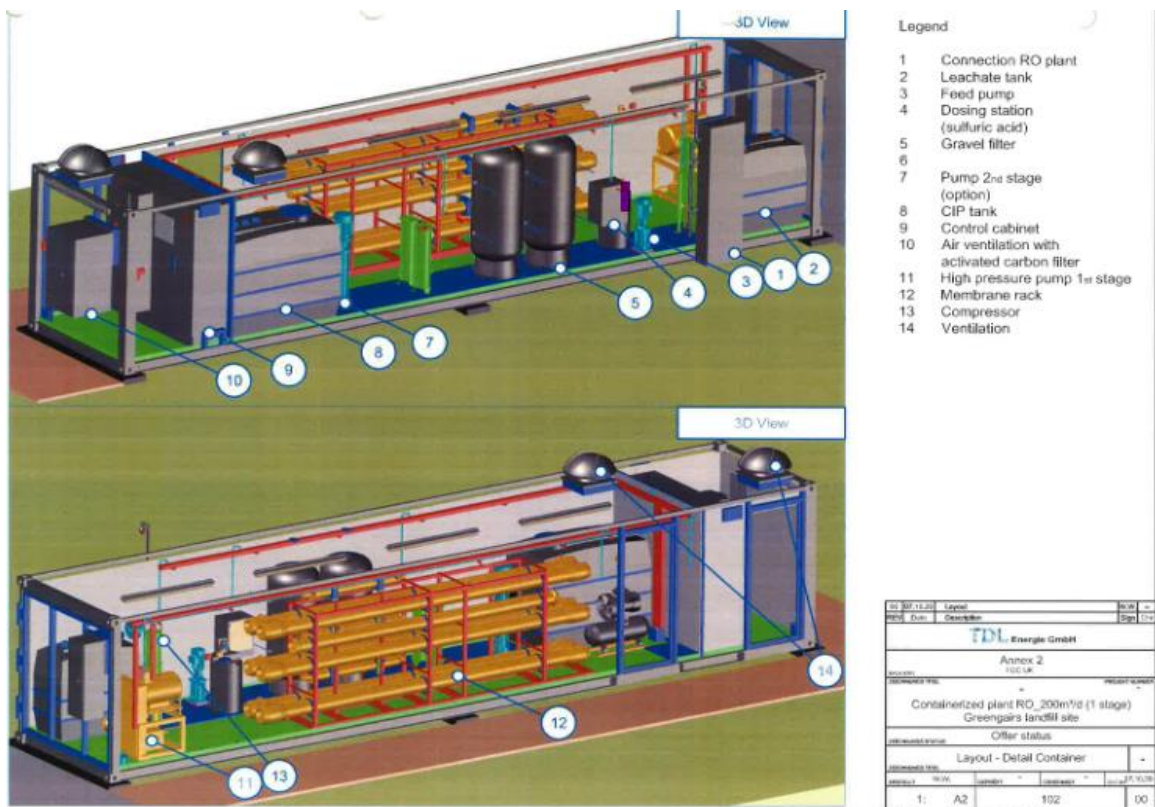
Owing to the chemistry of IBA, the run-off will be saline although the salinity is likely to have a higher sulphur content, the IBA run-off quality is likely to be slightly alkaline with elevated sulphate and chloride levels. Hazardous substances such as cadmium, mercury, solvents and pesticides are at negligible concentrations (i.e. below drinking water standards). Non-hazardous constituents such as ammoniacal-N and non-hazardous metals which were not removed in the post-incineration treatment process is present, however ammoniacal-N is low and CoD is negligible owing to the low specific organic substances present in IBA.

The table below details the current quality of the IBA run-off for Ammonia, Nitrate and Chloride.

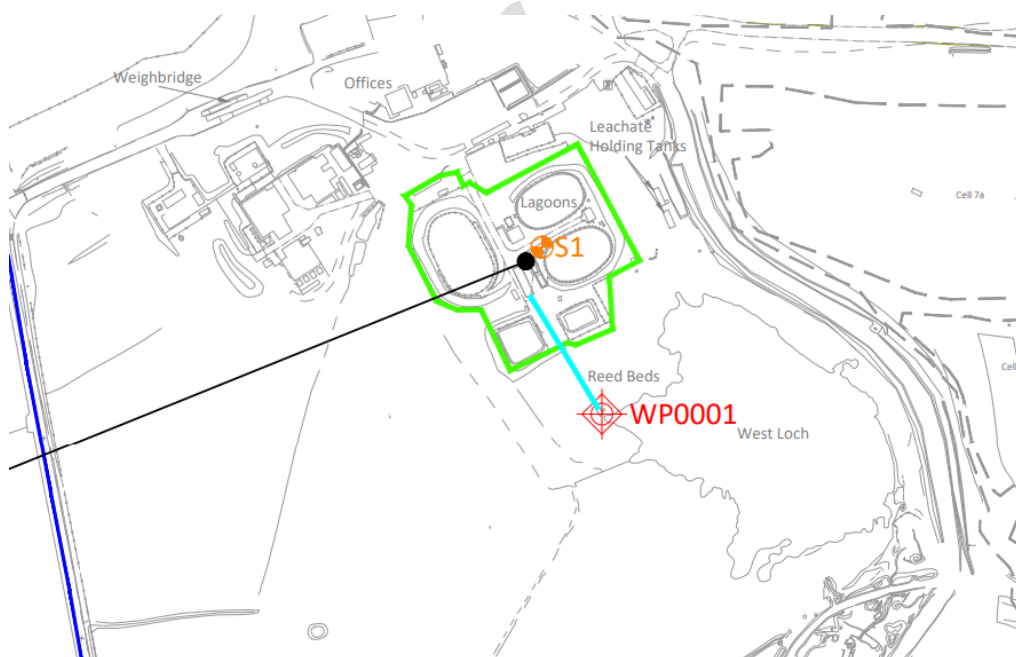
Parameter	Mean IBA run-off quality (mg/l) (data Jan 2019-February 2021)
Ammonia	0.58
Nitrate-N	2
Chloride	3189
Sodium	1810

The new RO Plant is based on a 3-stage reverse osmosis process and the RO Plant infrastructure will be installed within the existing leachate treatment plant (LTP) compound area, to the west of the main landfill.

Schematic of the reverse osmosis treatment plant



Location of the reverse osmosis plant within the Leachate treatment plant



Schematic of the reverse osmosis treatment plant discharge point via a 63 mm plastic pipe



4.3 Guidance/directions issued to SEPA by the Scottish Ministers under Reg.60 or 61.

None

4.4 Identification of important and sensitive receptors

5 KEY ENVIRONMENTAL ISSUES

5.1 Summary of significant environmental impacts

It is likely there will be no significant environmental impacts from the proposed discharge from the reverse osmosis treatment plant as the concentration of the contaminants of concern in the RO permeate discharge are likely to be less than the Environmental Quality Standards (EQS). EQS is an environmental medium quality standard for specific substances, which sets concentration thresholds below which, no adverse impact on the receiving water occurs

5.2 Implications of the Variation on - Point Sources to Air

There will be no point source emissions to air.

5.3 Implications of the Variation on - Point Source Emissions to Surface Water and Sewer

There will be a point source emission of the permeate from the RO Plant to the unnamed tributary of the Cameron Burn. The Permit holder has submitted analyses of the contaminants of concern.

There will be an emission to an unnamed tributary of the Cameron Burn so an effluent sampling point, referenced WP0002, will be installed at the point effluent leaves the RO plant. An MCERTS flow metre will be installed to record the flow of effluent discharged to the emissions point.

There will be no point source emissions to sewer.

5.4 Implications of the Variation on - Point Source Emissions to Groundwater

From section 2.12.1 of the RO process & indicative BAT review the Permit holder states there is no proposed point source release to ground water from the proposed RO treatment discharge.

5.5 Implications of the Variation on - Fugitive Emissions to Air

From section 2.13.1 of the RO process & indicative BAT review the Permit holder states due to the limited organic contents of IBA, it is not anticipated that there will be any odours associated with the RO treatment plant. The RO plant will however be enclosed and facilitated with carbon filters and Hydrogen sulphide filters in the ventilation system of the plant on a precautionary basis.

Implications of the Variation on - Fugitive Emissions to Water

From section 2.14.1 of the RO process & indicative BAT review in relation to the RO treatment plant, fugitive emissions to water and sewer would be primarily associated with surface run off from the treatment/storage area. Potential emissions are mitigated as follows:

Surfacing around the RO plant will be impervious concrete

Concrete base will be subject to routine inspection and maintenance to ensure integrity is maintained

Storage tanks for wastewater, concentrate, permeate and reagents will be fully contained and equipped with online level monitoring.

Surface run-off would be directed into the existing site drainage system and circulated to the effluent plant for treatment.

These will be regulated by standard permit conditions, no further fixed control required.

5.6 Implications of the Variation on – Odour

From section 2.13.1 of the RO process & indicative BAT review the Permit holder states due to the limited organic contents of IBA, it is not anticipated that there will be any odours associated with the RO treatment plant. The RO plant will however be enclosed and facilitated with carbon filters and Hydrogen sulphide filters in the ventilation system of the plant on a precautionary basis.

From section 4.1.1 of the RO process & indicative BAT review the Permit holder states The RO plant will be an enclosed system with submerging and vertical pipes to minimise the potential for odour release with the use of carbon and H₂S filters used in the ventilation of the plant to filter out odours (as an additional precaution). The location of this plant is not within 500m of any sensitive receptors. A planned preventive maintenance (PPM) programme will be in place for the RO plant, which will also include regular maintenance of equipment and monitoring of processes to ensure odours are minimised.

5.7 Implications of the Variation on – Management

From section 2.13.1 of Table SNG-2.1 in the RO process & indicative BAT review the Permit holder states in the application that it has an existing management system in place which includes documented operational procedures for all elements of the site. Following the commissioning of the new plant, any additional procedures will be incorporated into the system. They will include planned preventative maintenance programme for the plant and its associated infrastructure. The management system will include internal auditing and reporting of results to senior management.

The Permit holder states in the application site staff will be trained in employee awareness of normal plant operational odour levels and abnormal odour levels, and what action to take to minimise odour release. There is an 'Odour Management Plan' for the landfill site which details control measures and procedures for dealing with odour emissions and complaints should they arise, which will extend to cover operations at the RO plant.

5.8 Implications of the Variation on - Raw Materials

The Permit holder states in section 2,7 of Table SNG-2.1 in the RO process & indicative BAT review that the raw materials to be used in the process are Sulphuric acid, Caustic Soda (NaOH), Descaling chemicals, Alkaline cleaner (P3-ultrasil 11) and Citric acid (for membrane cleaning). Periodic review of the materials in the management system will ensure that consideration is given to choosing alternative with improved environmental profile. This will be required to be reviewed under the ISO 140001 Accreditation.

Table 2 Types and quantities of raw materials

Substance	Storage Arrangements
Sulphuric Acid	Stored in 15m ³ self-bunded tank All chemical containers will be sited within a bund. Sulphuric acid is stored in an acid resistant tank.
Caustic Soda	Stored in 30m ³ self-bunded tank All chemical contains will be sited within a bund.
Membrane Acidic Cleaner (citric acid)	Delivered in 25kg bags which will be stored in a bund of sufficient size to contain it. All vessels and tanks used for storage of process materials will be above ground with secondary containment of materials that are appropriate to the chemical nature of the materials being stored.
Alkaline cleaner	Delivered in 25kg bags which will be stored in a bund of sufficient size to contain it. All vessels and tanks used for storage of process materials will be above ground with secondary containment of materials that are appropriate to the chemical nature of the materials being stored.
De-scaling chemicals	Delivered in 25kg drums which will be stored in a bund of sufficient size to contain it. All vessels and tanks used for storage of process materials will be above ground with secondary containment of materials that are appropriate to the chemical nature of the materials being stored.

5.9 Implications of the Variation on - Raw Materials Selection

The Permit holder states in section 2.4.1 of Table SNG-2.1 of the RO process & indicative BAT review that the operator will review the use of process materials at the Site as part of waste minimisation audits which will be carried out periodically. The frequency and scope of the audit will be informed by the environmental aspects and impacts reviews required for the ISO 14001 certified EMS. Raw materials will only be used in the quantities required to prevent operational problems. Records of the quantities of materials used along with operational parameters will enable periodic reviews of the material usage with a view to identifying opportunities for improved efficiency. Raw materials will be regulated under standard permit conditions

5.10 Implications of the Variation on - Waste Minimisation Requirements

Waste minimisation will be regulated by standard conditions to; record waste material generation annually, maintain a record of storage locations and to require a 4 yearly review of waste generation to identify methods of minimising waste generation.

5.11 Implications of the Variation on - Water Use

The Permit holder states in section 2.4.3 of Table SNG-2.1 that the IBA leachate will not be diluted. Only minimal amounts of water will be used for cleaning of the reverse osmosis plant, as the process is enclosed and it is anticipated it will not require regular cleaning. Water usage is recorded for the site. The water usage on site will be minimal.

5.12 Implications of the Variation on - Waste Handling

The applicant has stated in section 6.5 of the application, the main aspects of waste handling will be the loading of the leachate concentrate. The remainder of the wastes generated on site will be segregated and stored in suitable containers in an area of concrete hardstanding. The proposals are in line with the S5.03 Guidance

5.13 Implications of the Variation on - Waste Recovery or Disposal

The Permit holder has stated that the concentrate aqueous permeate from the reverse osmosis treatment plant will be stored and bulked up on site before being tankered off for disposal at a suitably authorised treatment facility.

5.14 Implications of the Variation on – Energy

The Permit holder states the plant is new and has been designed with energy efficiency in mind. The main energy use at the plant will be from the high-pressure pumps associated with the filtration process, which will operate 365 days per year. A number of process/discharge/dosing pumps will operate intermittently throughout the process. The control panel will record periods when particular equipment is in use and the power consumption of each unit is known. This will provide the ability to accurately monitor and report on the use of energy from different parts of the operation within the plant. This information can be used for periodic reviews of energy use in order to identify potential energy reduction opportunities. The applicant has listed the proposed energy use as 0.54 Mwh of electricity is to be used from public supply. The site will not be subject to the climate change levy agreement

5.15 Implications of the Variation for - Accidents and their Consequences

The Permit holder has stated in Table SNG-2.1 of the RO process & indicative BAT review that an emergency action plan will form part of the plant operational procedures, ensuring that all foreseeable accidents are mitigated against and action plans prepared which should be followed by site staff in the event of an accident occurring.

FCC is required to report to SEPA any accidents and ensuing remedial and mitigation work at Greengairs Landfill by conditions in the Permit.

5.16 Implications of the Variation for – Noise

The Permit holder has stated in section 2.8 of the RO process & indicative BAT review that with respect to the guidelines outlined in the sector guidance document S5.03 Guidance, it is felt that the general BAT principles are met with respect to:

- Employment of basic good practice measures for noise control.
- Provision of adequate plant maintenance. Sources of noise associated with the leachate treatment process will include:
 - Motors associated with the RO plant.
- Vehicle movements including reversing and loading operations. In designing the leachate treatment plant consideration has been given to the following mitigation measures
 - Motors and drives associated with the RO plant will be selected to minimise potential noise emissions.
 - Plant and services will be enclosed as far as practicable to minimise the emission of significant noise levels.
 - The manufacturers have stated that the maximum sound level at 1m distance from the container is 80 db (A).

Operational Considerations

- During plant commissioning, staff training will include raising employee awareness with respect to normal plant operational noise levels and actions to be taken to rectify any faults.
- RO plant doors and hatches will be kept closed when access not required.
- During periods of downtime, all plant will be switched off.
- RO plant will be maintained in line with manufacturer's recommendations this includes checking for deterioration of plant condition (e.g. bearings becoming worn). Repairs will be undertaken as appropriate to rectify any identified defects.

Noise Monitoring

Noise levels from the RO process will be evaluated during the commissioning period and if necessary further consideration of noise abatement or attenuation will be completed at this stage. The complaint procedure for the site will record any noise complaints associated with the site as a whole including the RO process - should complaints be received consideration will be given to boundary monitoring as appropriate.

Noise will be regulated by conditions 2.8 of the permit which states that within 10 weeks of RO plant being operational noise assessment shall be carried out and every 5 years after this a systematic assessment of noise associated with the permitted installation will be carried out.

5.17 Implications of the Variation for – Monitoring

The Permit holder states in section 2.10.1 in the RO process & indicative BAT review that the following monitoring will be carried out:-

Continuous monitoring of flow by magnetic inductive flow meter and continuous monitoring of temperature, conductivity and pH within process.

Monthly monitoring at the outlet of the Reverse Osmosis plant will be carried out by the Permit Holder. The RO discharge will be analysed for the following parameters-

Ammoniacal Nitrogen
 Arsenic (Diss)
 BOD
 Cadmium (Diss)
 Chloride
 Chromium (Diss)
 COD
 Conductivity
 Copper (Diss)
 Iron (Diss)
 Lead (Diss)
 Manganese (Diss)
 Mercury (Diss)
 Nickel (Diss)
 pH (Lab)
 Phosphate Ortho
 Suspended Solids
 Vanadium (Diss)
 Zinc (Diss)

Limits of certain parameters have been set and is covered by condition 7.5 of the permit.

5.18 Implications of the Variation for – Closure

The applicant has stated in section 6.11 of the application the operator has in place a system for recording of any incidents, such as spillages that may have led or could lead to ground contamination, and the actions taken. A site closure report will be prepared for the decommissioning of the plant when the times arises.

5.19 Implications of the Variation for - Site Condition Report (and where relevant the baseline report)

The Permit holder states a site investigation has not been considered necessary as part of this permit variation application to establish baseline soil conditions. A review of the area of the proposed RO Plant has established that there has been no deposit of waste and no landfilling operations in the area. A leachate treatment plant has been present in the area for circa. 30 years and the Operator has confirmed that there have been no records of pollution incidents, leaks or spillages in the area, or any visual evidence of contamination in the ground.6.1.,2

Ground conditions in this area are therefore considered to remain as originally stated in the initial Site Condition Report compiled by Carl Bro Group Limited in 2003 as part of the initial PPC Permit application submitted to SEPA and are unlikely to have changed.

5.20 Implications of the Variation for - Consideration of BAT

BAT is discussed against each of the key environmental issues described under Section 4 of the application. Due regards has been given in the BAT reference documents and The BREF's considered were: Sector Guidance Note IPPC S5.03 –Guidance for the Treatment of Landfill Leachate February 2007.

6 OTHER LEGISLATION CONSIDERED***Nature Conservation (Scotland) Act 2004 & Conservation (Natural Habitats &c.) Regulations 1994***

Is there any possibility that the proposal will have any impact on site designated under the above legislation?

No

Justification:

Nature Scotland (Scottish Natural Heritage) was consulted but no response was received.

Advice was sought from SEPA's Terrestrial Ecology. The following assessment was provided:-

Previously, Terrestrial Ecology had presented comments regarding the Incinerator Bottom Ash (IBA) stockpile and its potential airborne deposition impact on adjacent designated sites within the 5km Screening distance *ie*

- West Fannyside Moss SSSI/SAC located 2.2km to the northeast (NS 800 730)
- Longriggend Moss SSSI located 0.7km to the east (NS 812 696)
- North Bellstane SSSI located 3km to the northwest (NS 758 716)
- Lady Bells Moss, SSSI located 3.6km to the south (NS 810 650)

This new RO proposal lies within the footprint of the existing landfill leachate treatment area. It does not create more IBA or disturb the IBA stockpile. RO will result in an aqueous emission that will be discharged to a tributary of the Cameron Burn.

There is no direct pathway to the designated sites within the screening distance (above) and thus there is no likely impact of this proposal on the qualifying features of these designated sites.

Screening distance(s) used – 5km

7 ENVIRONMENTAL IMPACT ASSESSMENT AND COMAH

Guidance Notes – The PPC Regulations require that under certain circumstances SEPA take into consideration the information in any statutory Environmental Impact Assessment carried out as part of the planning process or a Safety Report produced under the Control of Major Accident Hazards Regulations.

How has any relevant information obtained or conclusion arrived at pursuant to Articles 5, 6 and 7 of Council Directive 85/337/EEC on the assessment of the effects certain public and private projects on the environment been taken into account?

NA

How has any information contained within a safety report within the meaning of Regulation 7 (safety report) of the Control of Major Accident Hazards Regulations 1999 been taken into account?

NA

8 DETAILS OF PERMIT**Do you propose placing any non standard conditions in the Permit YES****Do you propose making changes to existing text, tables or diagrams within the permit? YES****1. Outline of change:**

Condition 1.1.3 shall be amended to include the following additional Permitted Activity:

- The disposal of non-hazardous waste in a reverse osmosis treatment plant for the treatment of 50 or more tonnes per day for the purpose of the physico-chemical treatment of non-hazardous waste for disposal falling within paragraph (a)(ii) of Part A of Schedule 5.4 of Schedule 1 of the Regulations.

Details including justification:

To authorise the treatment of the IBA leachate by physico-chemical treatment by the reverse osmosis plant.

2. Outline of change:

The following reporting requirements shall be added to table 2.4.9:

Summary of Information to be Reported	Condition	Date/Within period/Frequency to be Reported	Date First Report due
Environmental Noise Report	2.8.3	One off report	Within 10 weeks of the reverse osmosis treatment plant being operational
Environmental Noise Management Plan	2.8.4	One off report	Within 2 months of the submission of the report required by condition 2.8.3
Systematic assessment of noise emissions	2.8.5	At least every 4 years after initial report received or otherwise agreed in writing with SEPA	

Details including justification:

To update table with the requirements to submit reports for noise monitoring of the reverse osmosis treatment plant. In the application supporting documentation it states the noise level of the proposed reverse osmosis plant can be 90dB.

3. Outline of change:

Condition 2.8 shall be deleted and replaced with the following:

2.8 Noise and Vibration

- 2.8.1 Within 10 weeks of the commencement of IBA treatment using mobile plant, the Operator shall submit an environmental noise report to SEPA, conforming to a recognised British Standard, quantifying the impact of the specific noise at noise sensitive receptors during operational treatment periods. The report should detail any intermittency, tonal, or other factors that may make the specific noise subjectively more annoying.
- 2.8.2 Within 2 months of submitting the environmental noise report, as required by Condition 2.8.1, the Operator shall update the Noise Management Plan, describing any further measures to be taken to prevent, or where that is not practicable minimise, the impact of noise emissions on noise sensitive receptors. The updated plan shall be submitted to SEPA.
- 2.8.3 Within 10 weeks of the reverse osmosis treatment plant being brought into operation, the Operator shall submit an environmental noise report to SEPA, conforming to a recognised British Standard, quantifying the impact of the specific noise at noise sensitive receptors during operational treatment periods. The report should detail any intermittency, tonal, or other factors that may make the specific noise subjectively more annoying.
- 2.8.4 Within 2 months of submitting the environmental noise report, as required by Condition 2.8.3, the Operator shall update the Noise Management Plan, describing any further measures to be taken to prevent, or where that is not practicable minimise, the impact of noise emissions on noise sensitive receptors. The updated plan shall be submitted to SEPA.
- 2.8.5 At least every 4 years, the Operator shall carry out a systematic assessment of noise and vibration emissions associated with the Permitted Activities, the purpose of which shall be to identify sources of noise and vibration on the site and methods of reducing noise and vibration from these sources. Each assessment shall be recorded and reported to SEPA.

Details including justification:

To require the Permit holder carries out noise monitoring to ensure the RO treatment plant will not be a noise nuisance to local residents.

4. Outline of change:

Condition 7.4.6.1 shall be deleted and replaced with the following:

7.4.6.1 Subject to the provision of the information required under condition 7.6.1.2 no samples of treated trade effluent, taken at a time when unusual weather conditions are adversely affecting the operation of the treatment plant, shall be taken into account in deciding whether condition 7.4.7 of this permit has been complied with. For the purposes of this condition "unusual weather conditions" means:-

low ambient temperatures as evidenced by effluent temperatures of 5oC or less or by the freezing of mechanical equipment in the treatment plant;

snow deposits sufficient to affect the normal operation of the treatment plant;

fluvial flooding;

weather conditions causing unforeseen loss of power supply to the treatment plant which could not be ameliorated by the reasonable provision and operation of standby generation facilities.

Details including justification:

To replace an amended condition number in the text.

5. Outline of change:

Section 7.5 has been deleted and replaced with:

7.5 Treated Trade Effluent Discharge (Reverse Osmosis Treatment)

7.5.1 Nature of Discharge

7.5.1.1 The discharge shall consist solely of Trade effluent in the form of treated leachate from Incinerator Bottom Ash activities carried out at the Permitted Installation. The Trade Effluent is an aqueous permeate from the reverse osmosis treatment plant.

The concentrated aqueous permeate from the reverse osmosis treatment plant will be stored in accordance with condition 5.3 before being transferred off site to a suitably authorised treatment facility as described in the Management Plan.

7.5.2 Discharge Point

7.5.2.1 The outlet shall be a 63 mm internal diameter plastic pipe, discharging to an unnamed tributary of the Cameron Bum at National Grid Reference NS 7868 6951 as shown on drawing number 4785-CAU-XX-XX-DR-V-1801 submitted with the application.

7.5.3 Operation

7.5.3.1 The reverse osmosis treatment plant shall be operated and maintained in accordance with best practice.

7.5.3 Sample Points

7.5.3.1 The sample point shall be constructed, maintained and appropriately identified as the sample point so that representative samples of the aqueous permeate may be safely obtained. All constituents of the aqueous permeate shall pass through the relevant sample point.

7.5.4 Flow Monitoring

7.5.4.1 Flow measurement structure shall be provided as detailed in the Management Plan by one month of date of this Notice and maintained to enable determination of the maximum flow rates and daily volumes of the discharges listed in Table 7.1

Table 7.1

Reverse Osmosis discharge Point	Max Flow Rate (l/sec)	Maximum Daily Volume (m3)
	2.4	200

7.5.3 Discharge Quality Standards

7.5.3.1 The concentration, in the aqueous permeate discharge from the reverse osmosis treatment plant, of the substances listed in column 1 of the table 7.2 shall not exceed the concentration listed in column 2.

Table 7.2

Parameter	Maximum Concentration
pH	Not less than 6 or greater than 9
Arsenic	0.05 mg/L
Cadmium	0.001 mg/L
Chloride	250 mg/L
Chromium	0.001 mg/L
Conductivity	750 uS/cm
Copper	0.01 mg/L
Mercury	0.00003 mg/L
Nickel	0.02 mg/L
Lead	0.01 mg/L
Zinc	0.1 mg/L

Details including justification:

Emission limits have been set to ensure contaminants in the RO permeate to be discharge are below Environmental Quality standards and in accordance with SEPA Policy 61 "CONTROL OF PRIORITY AND DANGEROUS SUBSTANCES AND SPECIFIC POLLUTANTS IN THE WATER ENVIRONMENT".

Results from analyses of the RO treatment plant permeate during a commissioning trial show the maximum outlet concentrations of pollutants of concern are all less than EQS limits for parameters of concern, so the discharge proposal is acceptable. EQS limits are inserted as discharge quality limits into the Permit to require the Permit holder continues to measure concentrations to demonstrate compliance with the limits.

Since predicted discharge concentrations are all <EQS then dilution isn't an issue.

6. Outline of change:

Condition 7.5 has become 7.6

Details including justification: Administrative change

7. Outline of change:

Table 11.1.8 has been amended to include the following row :

			Frequency	Frequency
	Location	Parameters	Operational phase	Aftercare phase
Treated leachate from Incinerator Bottom Ash activities composition	Monitoring point as specified within the Permit Application	Ammoniacal Nitrogen Arsenic (Diss) BOD Cadmium (Diss) Chloride Chromium (Diss) COD Conductivity Copper (Diss) Iron (Diss) Lead (Diss) Manganese (Diss) Mercury (Diss) Nickel (Diss) pH (Lab) Phosphate Ortho Suspended Solids Vanadium (Diss) Zinc (Diss)	Monthly	As specified in the Management Plan

Details including justification:

The table is amended to require the Permit holder carries out monitoring of the RO permeate discharge on a monthly frequency to demonstrate compliance with the limits.

9 EMISSION LIMIT VALUES OR EQUIVALENT TECHNICAL PARAMETERS/ MEASURES

Are you are dealing with either a permit application, or a permit variation which would involve a review of existing ELVs or equivalent technical parameters?

Yes

Justification:

As listed in the Section 8 above emission limits have been set to ensure contaminants in the RO permeate to be discharge are below Environmental Quality standards and in accordance with SEPA Policy 61 "CONTROL OF PRIORITY AND DANGEROUS SUBSTANCES AND SPECIFIC POLLUTANTS IN THE WATER ENVIRONMENT"

7.5.3.1 The concentration, in the aqueous permeate discharge from the reverse osmosis treatment plant, of the substances listed in column 1 of the table 7.2 shall not exceed the concentration listed in column 2.

Table 7.2

Parameter	Maximum Concentration
pH	Not less than 6 or greater than 9
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Conductivity	750 uS/cm
Copper	0.01 mg/L
Mercury	0.00003 mg/L
Nickel	0.02 mg/L
Lead	0.01 mg/L
Zinc	0.1 mg/L

10 FINAL DETERMINATION

Issue a variation notice of Permit PPC/W/20041– Based on the information available at the time of the determination SEPA is satisfied that

- The applicant will be the person who will have control over the operation of the installation/mobile plant,
- The applicant will ensure that the installation/mobile plant is operated so as to comply with the conditions of the Permit,
- The applicant is a fit and proper person (specified waste management activities only),
- Planning permission for the activity is in force (specified waste management activities only),
- That the operator is in a position to use all appropriate preventative measures against pollution, in particular through the application of best available techniques.
- That no significant pollution should be caused.

11 REFERENCES AND GUIDANCE

Guidance Notes – Identify key references, guidance (BREF, UK Technical Guidance, etc) used in determination

IED-PG-01-01 SEPA Application and Duly Made Guidance
 IED-PG-01-04 SEPA Public Participation Consultation Guidance
 IED-PG-01-08 SEPA Assessment Process Procedural Guidance
 NCP-P-01 SEPA Nature Conservation Procedure for Environmental Licensing
 SEPA Policy 61 “CONTROL OF PRIORITY AND DANGEROUS SUBSTANCES AND SPECIFIC POLLUTANTS IN THE WATER ENVIRONMENT”