

BrewDog Plc

New Application

PPC-A-SEPA2021-7035

Draft for Consultation

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1 NON-TECHNICAL SUMMARY OF DETERMINATION

See document titled "F11 – Non-Technical Summary" which was submitted as part of the PPC Part A application.

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 | 15/10/21 | Yes |
| Press & Journal | 15/10/21 | Yes |
| Ellon Times | 21/10/21 | Yes |

Officer checking advert:

No. of responses received: None

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

N/A

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

N/A

Is PPC Statutory Consultation Required – Yes***Food Standards Agency:***

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: None
 Comment: N/A

Health Board: Director of Public Health

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: None
 Comment: N/A

Local Auth: Aberdeenshire Council

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: 24/09/21
 Comment:

"I acknowledge receipt of your consultation regarding the above. This is currently being allocated to an officer who will correspond with you in due course."

26 October 2021 – no further response received.

Scottish Water:

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: None
 Comment: N/A

Health and Safety Executive:

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: 23/09/21
 Comment:

"Good afternoon,

Thank you for sending the 11 emails regarding Brewdog Plc, Ellon Brewery Effluent Treatment Plant, Ellon. However, the proposed development does not fall within any HSE consultation zones and so the Land Use Planning Team have no comments to make.

Kind Regards"

Nature Scot (PPC Regs consultation):

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: 21/10/21
 Comment:

"Thank you for your consultation regarding the above proposal.

*The proposal has connectivity with the Ythan estuary which falls within, Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) and Sands of Forvie and Ythan Estuary Sites of Special Scientific Interest (SSSI). The estuary has a **previous history of issues with nutrient enrichment and the growth of algal mats which may affect the conservation objectives of the SPA.***

*We therefore advise that **SEPA consider whether the proposed nutrient discharges from the development will have a Likely Significant Effect upon the interests of the SPA and if so carry out a Habitats Regulations Appraisal prior to determining the application. We would be happy to discuss the appraisal if required.***

More information on the designated sites can be found on our website here: [HYPERLINK](#)

Yours faithfully"

SEPA Response:

Email sent on 16 November 2021 confirming that an assessment has been undertaken and confirmed that the proposal will not have Likely Significant Effect with regards to the SPA designation, and will not cause Likely Damage with regards to the SSSI designation.

Discretionary Consultation - Yes

Ellon Community Council

Sent: 22/09/21
 Deadline: 20/10/21
 Response Rec'd: None
 Comment: N/A

Public Participation Consultation -**Statement on the Public Participation Process**

The Pollution Prevention and Control (Public participation (Scotland) Regulations 2005 requires that SEPA's draft determination of this application be placed on SEPA's website and public register and be subject to 28 days' public consultation.

The dates between which this consultation took place, the number of representations received and SEPA's response to these are outlined below.

| | |
|--|------------------|
| Date SEPA notified applicant of draft determination | 15 December 2021 |
|--|------------------|

| | |
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| Date draft determination placed on SEPA's Website | 15 December 2021 |
|--|------------------|

| | |
|--|--|
| Details of any other 'appropriate means' used to advertise the draft. | |
|--|--|

| | |
|--|--|
| Date public consultation on draft permit opened | |
|--|--|

| | |
|---|------------------|
| Date public consultation on draft permit consultation closed | 15 December 2021 |
|---|------------------|

| | |
|---|--|
| Number of representations received to the consultation | |
|---|--|

| | |
|--|--|
| Date final determination placed on the SEPA's Website | |
|--|--|

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

3 ADMINISTRATIVE DETERMINATIONS**Determination of the Schedule 1 activity**

As per application.

Determination of the stationary technical unit to be permitted:

As per application.

Determination of directly associated activities:

As per application.

Determination of 'site boundary'

As per application.

4 INTRODUCTION AND BACKGROUND**4.1 Historical Background to the activity**

The BrewDog brewery at Ellon has been operating for a number of years.

The process has always produced organic waste which the company has had to manage.

Up until now management of these wastes has been to spread the materials to land for agricultural benefit in accordance with the relevant waste management regulations.

The wastes have high organic content which makes them ideal materials for anaerobic digestion – the process of breaking down organic material in the absence of oxygen, which generates methane gas.

Having looked at various options BrewDog have decided that they wish to build and operate an anaerobic digestion plant to treat this waste.

As a stated activity in Schedule 1 of the PPC (Scotland) Regulations 2012, a PPC permit is required to operate the installation hence this application to SEPA.

4.2 Description of activity

Waste liquids from the adjacent brewery will be both pumped and transported by tanker to two holding tanks.

These two liquid wastes streams will be mixed and fed into an anaerobic digester.

Once the waste has been subject to the anaerobic digestion process for a set time it will be separated into a liquid and solid fraction.

The solid fraction will be taken off-site and spread to land in compliance with the relevant waste regulations.

The liquid fraction will be treated further via a membrane biological reactor to reduce the pollutant loading associated with it.

Once treated, the liquid will be discharged into an “ecological treatments system” comprising of multiple reed beds. This will reduce the pollutant loading of the treated effluent further.

The effluent will then pass from the ETS to the SUDS pond before discharging via a pipe into the Broomies Burn.

Gas generated by the anaerobic digestion process will be treated on site, improving its quality to allow direct injection into the gas network.

A fully enclosed ground flare will be available at all times.

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

SEPA has not received any guidance or directions from the Scottish Minister under regulation 60 or 61 in relation to this application.

4.4 Identification of important and sensitive receptors

Residential Receptors:

Two residential properties located to the north and north-northeast of the proposed site. Both are on the boundary of the proposed site boundary and are ~50m from process equipment.

Two further residential properties are located ~130m to the southeast of the proposed installation, beyond a small industrial estate.

A further residential estate is located ~500m west of the proposed installation.

Designated Sites:

Site of Special Scientific interest (SSSI):

The upper extent of the Sands of Forvie and Ythan Estuary SSSI, is located approx. 1.8km southwest of the proposed site.

Special Protected Area (SPA):

The upper extent of the Ythan Estuary, Sands of Forvie and Meikle Loch SPA is located 1.6 km southwest of the proposed site.

5 KEY ENVIRONMENTAL ISSUES

5.1 Summary of significant environmental impacts

If the applicant manages the plant in compliance with the draft permit conditions, there should be no significant environmental impacts associated with the proposed installation.

5.2 Point Sources to Air

There will be three, point source emissions to air:

| Source | Pollutants |
|------------------------------------|---|
| Flare | SO _x , NO _x , NMVOCs |
| Biomethane/LPG Boiler | SO _x , NO _x , CO |
| Exhaust from Gas Conditioning Unit | CO ₂ , H ₂ S, NH ₃ |

Flare and Boiler:

Air emissions modelling was submitted. SEPA are satisfied that operation of the installation, in line with the modelled scenarios, would ensure there was no significant environmental impact to any nearby sensitive receptor, either in the short term or the long term.

Appropriate conditions have been included in the draft permit to ensure nearby sensitive receptors are not impacted.

Gas Conditioning Unit Exhaust:

The applicant has estimated chemical composition of the exhaust gas and undertaken an H1 screening assessment. The results of the H1 assessment have screened out the emissions as being insignificant. SEPA has assessed the H1 model presented and are satisfied with the assumptions made, the approach taken and the conclusion.

5.3 Point Source Emissions to Surface Water and Sewer

Sewer:

There are no proposed point source emissions to sewer.

SEPA's preference would have been that the discharge was directed to sewer, however as SEPA understands there was not adequate capacity, hence the proposal to include an aerobic treatment process onto the output from the anaerobic digestion process.

Surface Water:

There is one point source emissions proposed to the water environment:

- Emission to the Broomies Burn via the ETS and new SUDS system

The emissions have been modelled by SEPA and appropriate two-tier emission limit values have been included in the draft permit to ensure that the Environmental Quality Standards in the Broomies Burn will be met.

5.4 Point Source Emissions to Groundwater

There is one proposed point source emission to groundwater:

- Soakaway associated with toilet facilities on site.

The discharge would be managed through application of GBRs, consistent with CAR registrations.

5.5 Fugitive Emissions to Air

The main source of fugitive emissions to air from the proposed activity are likely to be odour (see 5.7 below).

Whilst the proposed activity is unlikely to generate any dust a general dust control condition has been included in the draft permit.

5.6 Fugitive Emissions to the Water Environment

There are three potential sources of fugitive emissions to the water environment:

Sub-surface Infrastructure:

All subsurface infrastructure will be tested during the commissioning process and conditions have been included in the draft permit which would require annual inspection.

Ecological Treatment System (ETS):

The ETS is fully lined breaking source pathway receptor to soil and groundwater.

Sustainable Urban Drainage Systems (SUDS):

SUDS has been designed in line with Simple Index Approach outlined in the CIRIA SUDS Manual.

Conditions have been included in the draft permit which will protect the water environment from fugitive emissions.

5.7 Odour

The potential sources of odour on site are:

| Odour Source | Comment |
|--------------|---|
| Biogas | <p>This has a trace amount of hydrogen sulphide within it, which due to its negative hedonic tone can be unpleasant at extremely low concentrations (Odour threshold 0.02ppm)*.</p> <p>H₂S concentrations in the biogas will be controlled via dosing with FeCl₃, keeping the H₂S levels at approximately 150 to 180 ppm within the enclosed air tight system.</p> <p>Biogas should only be able to escape to air via two routes:</p> <ul style="list-style-type: none"> • Via the Pressure Release Valves – these are a safety feature required to prevent plant explosions. The PRVs for the proposed installation are set to release at 10mbar. This will only occur if the Gas to Grid Unit and flare are not working. Should such a scenario occur the Applicant estimates that it could up to 90 minutes before the PRVs operated, giving the Applicant a window to resolve issues with the flare. The Applicant has stated that data from similar installations (on distillery and food sites) suggest that the PRV may be tripped once per year, with emissions lasting for less than 30 minutes. • The other route is via the flare The flare must operate at 1,000°C therefore the H₂S present would be oxidised to SO_x. |

| Odour Source | Comment |
|---|---|
| | <p>Conditions have been included in the draft permit which:</p> <ul style="list-style-type: none"> • Would require the Applicant to treat all PRV activations as a reportable Incident; • Require the Applicant to record all incidences where the H₂S levels in the biogas exceed the operational target value. |
| Exhaust Gas from Gas Conditioning Unit | <p>Gas venting from the Gas Conditioning Unit will contain trace components of ammonia, hydrogen sulphide and VOCs.</p> <p>Whilst this emission has been screened out in terms of significance in relation to ensuring the Environmental Assessment Limits are maintained, there is the possibility that it has an odour associated with it.</p> <p>Conditions will be included for the applicant to assess the odour of the emission and also to confirm that the H₂S and ammonia component to the emissions are as expected.</p> |
| Open topped waste reception tanks | <p>These tanks have been in use for over three years without odour complaint. The proposed installation will not materially alter how these have been used and managed to date, so there is good confidence that these will not become an odour source.</p> |
| Open topped tanks associated with the aerobic treatment process | <p>The Applicant has confirmed that their experience with other plants which their technology partners have been involved with which treat single source waste materials (as opposed to other types of AD plants which accept organic food wastes from a variety of sources).</p> <p>SEPA's own experience concurs with what the applicant has stated. As long as the aerobic treatment process is well managed and aeration maintained, the process should operate with minimal odour.</p> <p>The Applicant will be expected to have a well developed management plan for the installation which has effective intervention methods and contingency plans should odour be detected beyond the installation boundary.</p> |
| Control Building and External storage skip | <p>The main potential odour within the building is the screw press.</p> <p>The Applicant has stated that due to the single source of material being fed into the system it is not comparable to other commercial waste AD installations and maintain that the solid digestate is "<i>not inherently odorous</i>".</p> <p>They have also indicated that the screw press will only operate for 16 hours per day.</p> <p>A combination of commissioning conditions, a robust odour management plan, general odour condition and short storage timescales should ensure that the operation does not cause odour.</p> |

*SEPA Odour Guidance 2010

5.8 Management

An Environmental Management System is being developed and will be concluded as part of the Commissioning process.

The Applicant is aware of what is required.

A number of appropriate conditions have been included in the draft permit relating to Management Systems.

5.9 Raw Materials & Selection

Supporting document "B2.2 Raw Materials" submitted with the application outlines how the applicant will select, and manage raw materials on the proposed installation.

SEPA has reviewed the document and is satisfied that it is consistent with best available techniques for this installation.

5.10 Water Use

Water usage will be reviewed as part of the resource utilisation requirements.

Note: It is understood that the AD development may lead to a Reverse Osmosis plant being installed in the brewery. If this happens then it is possible that the treated effluent from the AD/aerobic process may be able to be used in the brewery reducing water usage significantly.

5.11 Waste Minimisation Requirements & Waste Handling

Supporting documentation "B2.6 & B2.7 Waste" submitted with the application presents a waste inventory and commentary on how the Applicant plans to manage wastes coming onto the site and wastes arising from the proposed activity.

Standard conditions shall be included requiring regular review and reporting of resource utilisation.

The Applicant has confirmed that the wash water from the brewery is pumped to the storage tanks on the proposed AD site however the "trub" waste is still transported by tanker.

The Applicant has confirmed it is their intention is to pipe the "trub" to the site in future but have not provided a date.

SEPA consider pumping the "trub" waste would significantly decrease the risk of accident related to the movement and handling of the waste and regard piping the waste to be in line with BAT.

BAT 4 states in relation to optimised storage locations "the storage is located in such a way so as to eliminate or minimise the unnecessary handling of wastes within the plant". Pumping the trub waste would likely eliminate handling.

It is proposed to include a condition in the draft permit requesting a timeline from the applicant regarding the pumping of trub waste onto the proposed AD installation.

5.12 Energy

Supporting document "B2.8 Energy" submitted with the application outlines the energy demands of the process.

Standard resource utilisation conditions will require the Applicant to routinely record and report energy usage, and periodically review plant operation to ensure energy continues to be used efficiently and to identify opportunities for improvement.

5.13 Accidents and their Consequences

An Accidents and Their Consequences assessment was completed as part of the application.

The assessment table provided (B2.9.4) only presented the measures for the management of the accident consequence. It did not outline the accident/incident initiating scenarios and so is not a complete risk assessment.

The Applicant has confirmed that a HAZOP has been completed for the site however has not been provided in its entirety due to confidentiality concerns.

Given that a HAZOP has been completed, SEPA are confident that initiating scenarios have been outlined however would still like the initiating scenarios, assessment of risk and implementation of mitigation measures to be provided in their entirety as part of the required Incident Prevention and Mitigation Plan. This should follow the format in S5.06 guidance available on SEPA's website (IPPC S5.06 Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste Version 4 Dec 2004).

5.14 Noise

A Noise Impact Assessment (NIA) was undertaken and submitted in support of the application.

Because the plant is not operational the NIA was based on predictive modelling (SoundPLAN) using available survey data and theoretical sound level values for equipment.

The initial assessment predicted a "significant adverse impact" at Receptor 2, however after mitigating the noise from the exhaust of the Gas Conditioning Unit the model predicted a reduced "adverse impact" at night-time at Receptor 2. This was largely based on the assumption that the installation noise may be subject to a tonal penalty. In SEPA's opinion there are various proven "best available techniques" to negate tonal noise and the plant should be able to operate without having a tonal impact on nearby sensitive receptors.

The review of the NIA identified a number of points requiring clarification, and identified the limited data used in the assessment as one of the main risks associated with the findings of the assessment.

SEPA accepts that modelling is indicative only, is based on limited data and assumes tonality which may or may not be present.

SEPA accepts what has been proposed, on the basis that conditions will be imposed which will require the applicant to undertake additional noise impact assessments as part of the commissioning activities. The monitoring will require narrow band analysis with a view to confirming whether the as built plant does generate audible tones. Should the overall assessment continue to indicate "adverse impact", taking into account penalty corrections based on evidence, then further noise remediation will be required.

This is new plant in very close proximity to noise sensitive receptors therefore the risk is higher hence conditions have been included which require annual assessment of both broad band and tonal noise. The condition allows for this frequency to be reduced should assessments indicate there is a consistently low level of impact.

5.15 Monitoring

Monitoring conditions relating to air, water, wastes, infrastructure, etc. have been included in the draft permit based on published guidance.

There is an enhanced monitoring period for the water discharge over the first 6 months of the permit to ensure performance of the plant following commissioning. This is an additional burden however is felt reasonable due to the size of the discharge, compared to the size of the receiving water course.

5.16 Closure

As a Specified Waste Management Activity, the Applicant is required to provide evidence that adequate Financial Provision has been made to clear the site on Closure, (as a non-landfill SWMA there are no on-going or aftercare costs to be considered).

An estimate of FP was submitted and accepted.

5.17 Site Condition Report (and where relevant the baseline report)

Site Condition Report:

The Site Condition Report was sufficient to:

- demonstrate the condition of the site,
- describe substances that will be used on site, and

- mitigation to reduce the potential risk to soil and groundwater.

However, characterisation of substances as hazardous or not was not made with reference to the correct legislation (i.e. Regulation (EC) No 1272/2008). In addition the chemical composition of some materials was not defined (e.g. digestate waste is a complex mixture of chemicals some of which will be regarded as hazardous e.g. ammonia). As such decisions on the requirements of soil and groundwater monitoring could not be made at this time.

A condition has been included in the draft permit to submit a revised Site Condition report to address the deficiencies.

The requirements for soil and groundwater monitoring will be covered by the condition which requires the Applicant to submit an agreed monitoring plan to SEPA prior to undertaking the sampling. The first sampling exercise will be within 12 months of issue of any permit.

Baseline Waiver:

BrewDog formally requested a waiver with regards to the requirement for baseline investigation as per Schedule 4, 1(4). On the basis of the information presented (i.e. that the site is greenfield and that the hazardous substances are unlikely to be present naturally) SEPA agree to the waiver.

5.18 Consideration of BAT

Based on the information provided, SEPA regards the technologies and management techniques proposed by the Applicant to represent BAT.

| | | | | | | | | | | | | | | | |
|--|--|------------------------|-----------------------|--------------------------|------------------------|-----------------------|-----------------------------------|------------------------|-----------------------|---|---------------------------------|------------------------|---|-------|------------------------|
| 6 OTHER LEGISLATION CONSIDERED | | | | | | | | | | | | | | | |
| <i>Nature Conservation (Scotland) Act 2004 & Conservation (Natural Habitats &c.) Regulations 1994</i> | | | | | | | | | | | | | | | |
| <p>Is there any possibility that the proposal will have any impact on site designated under the above legislation? No.</p> <p>Justification: The proposed discharge has been modelled to meet the downstream EQS standards for a variety of parameters. These limits will be included within the permit.</p> <p>In addition to modelling of the discharge into the burn, the impact of the increased nitrogen in the burn, on the upper estuary has also been modelled. The latter modelling indicates “The impact on the overall estuary is therefore likely to be minimal.”.</p> <p>As no relevant Environmental Quality Standards will be breached in the Broomies Burn as a result of the proposed activity and the conditions imposed on the permit, and the effect on the nitrogen concentration in the Ythan Estuary downstream will be insignificantly small, SEPA considers that the proposed activity will not have a likely significant effect in relation to the SPA designation, and will not cause likely damage with respect to the SSSI designation.</p> | | | | | | | | | | | | | | | |
| Screening distance(s) used – 2km | | | | | | | | | | | | | | | |
| <p>Sites of Special Scientific Interest: Sands of Forvie and Ythan Estuary 14 listed features, most relate to breeding bird species.</p> <table border="1"> <tr> <td>Arctic tern (<i>Sterna paradisaea</i>), breeding</td> <td>No negative pressures</td> <td>Favourable Maintained</td> </tr> <tr> <td>Breeding bird assemblage</td> <td>Recreation/disturbance</td> <td>Favourable Maintained</td> </tr> <tr> <td>Coastal Geomorphology of Scotland</td> <td>Recreation/disturbance</td> <td>Favourable Maintained</td> </tr> <tr> <td>Common tern (<i>Sterna hirundo</i>), breeding</td> <td>Other Recreation/disturbance</td> <td>Unfavourable Declining</td> </tr> <tr> <td>Eider (<i>Somateria mollissima</i>), breeding</td> <td>Other</td> <td>Unfavourable Declining</td> </tr> </table> | Arctic tern (<i>Sterna paradisaea</i>), breeding | No negative pressures | Favourable Maintained | Breeding bird assemblage | Recreation/disturbance | Favourable Maintained | Coastal Geomorphology of Scotland | Recreation/disturbance | Favourable Maintained | Common tern (<i>Sterna hirundo</i>), breeding | Other Recreation/disturbance | Unfavourable Declining | Eider (<i>Somateria mollissima</i>), breeding | Other | Unfavourable Declining |
| Arctic tern (<i>Sterna paradisaea</i>), breeding | No negative pressures | Favourable Maintained | | | | | | | | | | | | | |
| Breeding bird assemblage | Recreation/disturbance | Favourable Maintained | | | | | | | | | | | | | |
| Coastal Geomorphology of Scotland | Recreation/disturbance | Favourable Maintained | | | | | | | | | | | | | |
| Common tern (<i>Sterna hirundo</i>), breeding | Other Recreation/disturbance | Unfavourable Declining | | | | | | | | | | | | | |
| Eider (<i>Somateria mollissima</i>), breeding | Other | Unfavourable Declining | | | | | | | | | | | | | |

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| | Recreation/disturbance To be identified | |
| Eider (<i>Somateria mollissima</i>), non-breeding | Water quality | Favourable Maintained (06Nov12) |
| Estuary | No negative pressures | Condition Not Assessed |
| Little tern (<i>Sternula albifrons</i>), breeding | Natural event Recreation/disturbance Fishing | Favourable Maintained |
| Pink-footed goose (<i>Anser brachyrhynchus</i>), non-breeding | Recreation/disturbance | Favourable Maintained |
| Saltmarsh | Grazing - other | Favourable Declining |
| Sand dunes | Invasive species | Unfavourable No change |
| Sandwich tern (<i>Sterna sandvicensis</i>), breeding | No negative pressures | Favourable Maintained |
| Vascular plant assemblage | Under grazing | Favourable Maintained |
| Waterfowl assemblage, non-breeding | Water management Wildlife crime | Favourable Maintained |

Special Protection Areas: Ythan Estuary, Sands of Forvie and Meikle Loch

8 listed features, most relate to breeding birds.

| | | |
|---|--|-----------------------------------|
| Common tern (<i>Sterna hirundo</i>), breeding | Other Recreation/disturbance | Unfavourable No change |
| Eider (<i>Somateria mollissima</i>), non-breeding | Agricultural operations Water quality | Favourable Declining (21Aug12) |
| Lapwing (<i>Vanellus vanellus</i>), non-breeding | No negative pressures | Favourable Maintained |
| Little tern (<i>Sternula albifrons</i>), breeding | No negative pressures | Favourable Maintained |
| Pink-footed goose (<i>Anser brachyrhynchus</i>), non-breeding | Agricultural operations | Favourable Maintained |
| Redshank (<i>Tringa totanus</i>), non-breeding | Agricultural operations Other | Favourable Maintained |
| Sandwich tern (<i>Sterna sandvicensis</i>), breeding | No negative pressures | Favourable Maintained |
| Waterfowl assemblage, non-breeding | No negative pressures | Favourable Maintained |

7 DETAILS OF PERMIT

See draft.

8 EMISSION LIMIT VALUES

| | |
|--|--|
| Flow | Flow shall be monitored continuously and shall be limited to 6.9 l/s as per modelled values. |
| pH | pH shall be monitored continuously and must be within the range of 5-9. |
| Chemical Oxygen Demand | The COD has been set at the tightest limit of the BAT AEL. |
| Biological Oxygen Demand | The lower limit value was generated using the discharge model with the upper limit generated using a multiplier of 4 as is standard practice. |
| Total Suspended Solids | The lower limit is based on stated performance by the Applicant and is also tightest limit of the BAT AEL. |
| Total Nitrogen (N) | This value was not modelled but is based on stated performance by the Applicant. |
| Ammoniacal Nitrogen (NH ₄ -N) | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Total Phosphorous (P) | The Applicant provided no performance specification for this parameter and it was not modelled. It was not clear what the relationship would be between Total P and SRP so |

| | |
|------------------------------|---|
| | we have assumed a ratio of 10:1 hence the Total P value is based on approximately 1x the SRP value. The stated absolute limit of 1 is within the BAT AEL range. |
| Soluble Reactive Phosphorous | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 4 as is standard practice. |
| Total Copper (Cu) | ELV has to be determined once empirical data is obtained to show the relationship between total and dissolved concentrations. |
| Dissolved Copper** | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Total Zinc (Zn) | ELV has to be determined once empirical data is obtained to show the relationship between total and dissolved concentrations. |
| Dissolved Zinc | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Total Chromium (Cr) | ELV has to be determined once empirical data is obtained to show the relationship between total and dissolved concentrations. |
| Dissolved Chromium | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Total Nickel (Ni) | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Total Lead (Pb) | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Dissolved Cadmium (Cd) | The lower limit value is based on the modelled result and the upper limit is based on a multiplier of 2 as is standard practice. |
| Total Iron (Fe) | Based on UWWTD consent limit |

9 PEER REVIEW

Has the determination and draft permit been Peer Reviewed? Yes

10 FINAL DETERMINATION

Issue of a Permit - Based on the information available at the time

- Issue a Permit** – 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 applicant 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

BAT Reference Document For Waste Treatment, 2018 **[BREF]**

BAT Conclusions For Waste Treatment, August 2018 **[BATC]**

JRC Reference Report on Monitoring of emissions to air and water from IED installations – ROM

IPPC S5.06: Guidance for the Recovery and Disposal of hazardous and Non-Hazardous Waste, Issue 5, May 2013

WST-G-031 Financial Provision for Non-Landfill Waste Management Activities, Version 3, February 2016

Guidance - Noise and vibration management: environmental permits, July 2021

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