

Natural Resources Wales permitting decisions

Convatec Limited (Convatec Rhymney Gelling Fibre Plant) Decision Document

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New bespoke permit/Variation

The application number/the permit/variation number is: [EPR/NP3433BC/V005](#)

The applicant /operator is: [Convatec Limited](#)

The Installation is located at: [Convatec Rhymney Gelling Fibre Plant, Heads of the Valley Industrial Estate, Rhymney, Tredegar, NP22 5RL](#)

We have decided to issue the variation for Convatec Rhymney Gelling Fibre Plant operated by Convatec Limited.

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

Purpose of this document

This decision document:

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

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

Key issues of the decision

Receipt of application

Convatec Limited applied to vary environmental permit EPR/NP3433BC relating to the Hydrocel Plant located within Unit 1 of their site in Rhymney. The purpose of this variation is to replace the current bioscrubber on site with a Regenerative Thermal Oxidiser (RTO), and to increase the permit boundary to accommodate this new abatement equipment. Although the production capacity will be doubled, this is already permitted within the existing permit. The installation is located within the Heads of the Valleys Industrial Estate in Rhymney, Tredegar, and occupies an area of approximately 8280m². The installation is centred on National Grid Reference 310601 208431.

The application was submitted on 16th March 2018. The duly making assessment of the application was carried out on 4th April 2018 and it was determined that the application could be considered duly made from receipt. This means we considered it was in the correct form, contained sufficient information for us to begin our determination, and that the correct fee had been paid for the application, but not that it necessarily contained all the information we would need to complete the determination. A letter was sent to the operator on 4th April 2018 explaining that their application was considered duly made and specifying the statutory deadline for determining the application, which was 16th June 2018. However, this deadline was extended at later dates due to having to ask the operator for further information on odour, noise and site layout (see sections on The site, Odour and Noise) (which effectively stopped the clock on the application for a period of time), and following a request for an extension of 18 days to the determination deadline by NRW on 20th June 2018.

Confidential information

A claim for commercial or industrial confidentiality was not made.

Identifying confidential information

We did not identify information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on commercial confidentiality.

Consultation

The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.

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

Operator

We are satisfied that the applicant is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with Environmental Permitting Regulations (EPR) RGN 1 Understanding the meaning of operator.

The facility

The decision on the facility was taken in accordance with RGN [Interpretation of Schedule 1].

The regulated facility is an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations and the following directly associated activities.

Section 4.5 A(1)(a) – Producing pharmaceutical products (Manufacture of gelling fibres)

Directly Associated Activity – Storage and disposal of waste (From generation of waste to dispatch off site)

Directly Associated Activity – Control and abatement systems for emissions to air (Treatment of waste gases via a Regenerative Thermal Oxidiser (RTO))

There are no changes to the listed activity as part of this variation. There is a change to the directly associated activity “*Control and abatement systems for emissions to air*”, previously limited to “*Extraction and collection of waste gases and treatment via*

carbon absorption and bioscrubber”, and now limited to “Treatment of waste gases via an RTO”.

Legislation

NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources

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

The site

The operator provided a plan which we consider is satisfactory, showing the extent of the site of the facility.

A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.

The site plan included in the operator’s submitted application was not satisfactory as it did not mark the location of all emission points. NRW requested that the operator submit a site plan clearly showing the location of all emission points in a Schedule 5 notice issued on 15th May 2018. The deadline for the operator to provide the information was 5th June 2018. A satisfactory site plan was submitted to NRW on 31st May 2018. As issuing a Schedule 5 notice effectively stops the clock of the determination of an application, the application was on hold between 15th May 2018 and 31st May 2018, and the determination deadline was extended by 16 days to 2nd July 2018.

An updated site plan to the one received in response to the Schedule 5 request was submitted as part of the operator’s review of the draft variation notice, with minor corrections to emission point references.

Site condition report

The operator has provided a description of the condition of the site.

We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports – guidance and templates (H5).

The site condition report submitted by the operator in their application provides a description of the state of the additional land to be included within the permit boundary. The report provides a reference point, along with operating records, to demonstrate that no deterioration or contamination of the land has taken place while operating under the environmental permit.

Biodiversity, Heritage, Landscape and Nature Conservation

The following sites of heritage, landscape or nature conservation, and/or protected species or habitat are within the relevant screening distances for an EPR installation with discharges to air. The protected habitats search was centred on the plant's proposed new RTO location.

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

Sites of Special Scientific Interest (SSSIs) (within 2Km of the search point)

Lower House Stream

Ancient Woodland (AW) (within 2Km of the search point)

Two Ancient Woodland sites south of the installation

Special Areas of Conservation (SACs) (within 10Km of the search point)

Usk Bat Sites

OGN Form 1 and CRoW Appendix 4 were completed and forwarded to our internal Natural Resource Management (NRM) team for consultation. The main emissions to air associated with the new RTO are oxides of nitrogen (NOx), carbon monoxide (CO) and Volatile Organic Compounds (VOCs). However, NOx is the only pollutant released from the stack that could impact on the ecology of the above wildlife sites, therefore CO and VOCs were screened out from further consideration for habitats. As there are

no changes to water discharge composition associated with this variation, the habitats assessment mainly focused on aerial releases of NO_x and potential noise (disturbance) from the RTO.

No concerns were raised with regards to effects of the proposed activities on any of the relevant wildlife sites following this internal habitats consultation. Our conclusion is that the proposal is not likely to have a significant effect on any of these sites. Further details on the results of the assessment can be found in the “Air” and “Noise” sections of this decision document.

European Sites and Protected Species Assessment

Usk Bat Sites (SAC)

The potential impact pathways which were assessed for this wildlife site (where an impact pathway could exist in principle) were nutrient enrichment, acidification, and disturbance (noise). Nutrient enrichment and acidification were considered potential impact pathways for the following designated features: Mammals of wooded habitats (Lesser horseshoe bat (*Rhinolophus hipposideros*)), Dry heathland habitats (Dry heaths (all subtypes)), Bogs and wet habitats (Degraded raised bogs (still capable of natural regeneration)), Bogs and wet habitats (Blanket bog), Upland (Chasmophytic vegetation on rocky slopes – calcareous sub-types), Caves not open to the public, and Dry woodlands and scrub (*Tilio-Acerion* ravine woodlands). We are satisfied that NO_x emissions from the proposed new activities will not have a likely significant effect on the features of the SAC. Further information can be seen in the “Air” section below. Disturbance (noise) was considered a potential impact pathway only for Mammals of wooded habitats (Lesser horseshoe bat (*Rhinolophus hipposideros*)) and Caves not open to the public. We are satisfied that any disturbance (noise) from the proposed new activities will not have a likely significant effect on the features of the SAC. Further information can be seen in the “Noise” section below.

SSSI Assessment

Lower House Stream

Aspects of the proposed activities which were considered potentially damaging to the features of the Lower House Stream SSSI listed were potential for increased ammonia concentration and increased nitrogen deposition, and potential for noise disturbance.

We are satisfied that potential impacts from the activities will not have a likely significant effect on any of the SSSI features.

Environmental Risk Assessment

Air

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the proposed new activities and their impact on local air quality.

A full assessment of the application and its potential to affect local air quality has been carried out as part of the permitting process. We consider that the application will not have a significant impact on local air quality.

As part of their application, the operator submitted a report on the modelling of the dispersion and deposition of NO_x, CO and VOCs from the proposed new RTO at Convatec in Rhymney. The applicant has assessed the RTO's potential emissions to air against the relevant Air Quality Standards (AQS), and the potential impact upon human health and wildlife sites. We are in agreement with this approach. The submitted assessments were forwarded to NRW's Air Quality Modelling and Risk Assessment Team (AQMRAT) for consultation. The assumptions underpinning the models have been checked and are reasonably precautionary. The way in which the applicant used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by AQMRAT to establish the robustness of the applicant's air impact assessment.

The submitted report demonstrates how the operator used ADMS modelling software to predict Process Contributions (PCs) and Predicted Environmental Concentrations (PECs) from the new RTO.

The operator's assessments are based on the following emission limit values (ELVs):

NO_x 50 mg/Nm³

CO 100 mg/Nm³

VOCs 20 mg/Nm³

The RTO is designed to achieve emissions of no more than these values. The operator firstly carried out a stack height screening study to determine the most appropriate height for the RTO stack. As the flow to the RTO will change as the site develops, the stack height screening study and subsequent assessment were undertaken as follows:

- Undertaken the stack height assessment based on the max flow of 39,1451 Nm³/hr (which will be achieved in 2021)
- Confirmed that the stack height is also acceptable based on a minimum flow of 15,437 Nm³/hr (2018) and average flow of 29,930 Nm³/hr (2021)
- Undertaken the full assessment based on the worst case (i.e. the scenario that provided the highest maximum ground level concentration)

The operator used five years (2012 - 2016) of observed meteorological data, comprising hourly sequential data.

The following assumptions were made which make the modelling predictions conservative:

- The release concentrations of the pollutants will be at the permitted ELVs on a 24-hourly basis, 365 days of the year; in practice when the plant is operating, the release concentrations will be below the ELVs; furthermore, taking shutdowns for planned maintenance into account, the plant will not operate for 365 days;
- The highest predicted pollutant ground level concentration for the five years of meteorological data for each averaging period (annual mean, hourly, etc.) have been used;
- Concentrations of NO₂ in the emissions have been calculated assuming a NO_x to NO₂ conversion rate of 70% long-term and 35% short-term; and
- Maximum predicted ground level concentrations at any location, irrespective of whether a sensitive receptor is characteristic of public exposure, are compared against the relevant AQSs for each pollutant.
- VOC emissions are 100% benzene

Assessment of human health impacts

For human health, the operator assessed the impact of emissions on sixteen specified receptors, the nearest being a property off Carno Street 150m from the site centre, and the furthest being a location 2289m from the site centre.

The operator predicted that the impact of emissions of NO₂, VOCs and CO for human receptors in the nearby area will not exceed 1% and 10% of the relevant long and short-term air quality standards respectively.

NRW's check modelling agrees with the operator's for human health impacts. There is unlikely to be any exceedances of AQSs for protection of human health at sensitive receptors due to the proposal.

Assessment of impacts on wildlife sites

For wildlife sites, the operator assessed the impact of emissions on Usk Bat Sites SAC and Lower House Stream SSSI. The operator predicted that the impact of emissions of NO_x at these sites will not exceed Critical Levels or Critical Loads. The operator's report did not include details of an assessment of potential impact of two AW within 2km of the search point. However, the effects on these sites were assessed by NRW and were deemed to be insignificant.

NRW's check modelling agrees with the operator's for wildlife site impacts. The predicted contributions are likely to be less than the insignificance criteria for both the critical levels and loads.

Our conclusion is that the proposed activities are not likely to have a significant effect on air quality for human or wildlife receptors.

Emission limits

Emission reference A1A (RTO stack) has been included in Table 2.2.2 in the permit (Emission limits to air and monitoring). The following parameters and emission limits have been set for the RTO stack:

Oxides of Nitrogen (NO and NO₂ expressed as NO₂): 50 mg/m³

Carbon Monoxide: 100 mg/m³

Volatile Organic Compounds: 20 mg/m³

It is considered that the ELVs described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.

There have been no other changes to emission limits to air specified in the permit.

Water

No release points to surface water will be introduced as part of this variation.

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

Emission limits

There will be no water emission limits set in the permit as part of this variation.

Soil

The operator has provided a description of the condition of the site.

We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports – guidance and templates (H5).

Odour

This section of the decision document deals primarily with modelling of odour emissions from the proposed new activities.

A full assessment of the application and its potential odour impact has been carried out as part of the permitting process. We consider that the application will not have a significant odour impact.

As part of their application, the operator submitted a report on the modelling of odour emissions from the proposed new RTO at Convatec in Rhymney. The applicant has followed NRW's H4 Guidance Note on Odour in assessing the impacts of odour. H4 defines benchmark levels for odour, above which there could be potential for odour annoyance. The benchmarks are based upon the 98th percentile of hourly average concentrations for odour modelled over a year as follows:

- 1.5 odour units for the most offensive odours
- 3 odour units for moderately offensive odours

- 6 odour units for less offensive odours

The modelling predictions at the selected receptors have been assessed against the odour benchmark level of 1.5 ouE/m³.

We are in agreement with this approach. The submitted assessment was forwarded to NRW's AQMRAT for consultation. The assumptions underpinning the model have been checked and are reasonably precautionary.

The submitted report demonstrates how the operator has taken into account several characteristics of odour, including frequency, intensity, odour unpleasantness, and location. The operator's odour ELV is 500 ouE/m³, which they stated had been provided by TSL.

The following assumptions were made which make the modelling predictions conservative:

- The odour abatement plant will be operational 24 hours a day, 365 days of the year;
- The highest predicted pollutant ground level concentrations for the five years of meteorological data for the averaging period have been used;
- Maximum ground level concentrations at any location, irrespective of whether a sensitive receptor is characteristic of public exposure, are compared against the odour criteria of 1.5 odour units.

The operator predicted that emissions of odour from the RTO, at the maximum point of impact are less than 25% of the odour criterion. Likewise, emissions of odour at sensitive receptor locations are a maximum of 14% of the odour criterion. The consultant's highest predicted 98th percentile hourly odour concentration is 0.36 ouE/m³. This prediction is a maximum on the modelled grid. At sensitive receptors the consultant predicts a maximum odour concentration of 0.198 ouE/m³.

The operator did not provide evidence for the odour ELV of 500 ouE/m³ in their submitted odour report. NRW requested that the operator submit this information in a Schedule 5 notice issued on 15th May 2018. The deadline for the operator to provide the information was 5th June 2018. Satisfactory evidence was submitted to NRW on 31st May 2018. As mentioned above, issuing a Schedule 5 notice effectively stops the

clock of the determination of an application, therefore the application was on hold between 15th May 2018 and 31st May 2018, and the determination deadline was extended by 16 days to 2nd July 2018.

NRW's check modelling agrees with the operator's. It is unlikely that the odour benchmark level of 1.5 ouE/m³ will be exceeded at sensitive receptors.

All new equipment brought by this variation is fired on natural gas. We are satisfied that there will not be any significant sources of odour from the proposed new activities.

Noise

This section of the decision document deals with potential noise from the proposed new activities and its impact on nearby sensitive human receptors and designated habitats sites.

A full review of the application and its potential noise impact has been carried out as part of the permitting process. We consider that the application will not have a significant noise impact.

Although the operator did submit a noise assessment as part of their application, it did not include an assessment of potential noise from the new RTO. A Schedule 5 notice was issued by NRW to the operator on 15th May 2018, requesting that they assess the impact of sound on nearby sensitive human receptors and designated habitat sites, and demonstrate that they are using Best Available Techniques (BAT) to minimise any noise impact. The deadline for the operator to provide the information was 5th June 2018. A response was received on 31st May 2018. In their response, the operator explains that they are currently not able to carry out a noise assessment for the new RTO due to difficulty in obtaining noise data. The RTO equipment supplier was unable to confirm the attenuating effect of the RTO equipment on the noise emission from the fans and so the noise consultant was not be able to assess any attenuating effect of the RTO unit, which includes various ducting, valves and two beds of ceramic media which is insulated, before being discharged to the stack. Due to absence of previous noise complaints for the site and the low risk involved with RTO noise impacts, NRW

is satisfied with the justification provided by the operator. We have however set an improvement condition relating to noise in the operator's varied permit, as follows:

Following successful commissioning and establishment of routine steady operation of the RTO, the Operator shall undertake noise monitoring at the nearest local receptors. This shall include:

- A full noise monitoring survey and assessment meeting the BS4142:2014 standard
- 1/3rd octave and narrow band (FFT) measurements to identify any tonal elements or low frequency noise
- Reference to the World Health Organisation guidelines for community noise

Upon completion of the work, a written report shall be submitted to Natural Resources Wales. If rating levels likely to cause adverse impact at sensitive receptors are detected, the report shall include an assessment of the most suitable abatement techniques, an estimate of the cost and a proposed timetable for their installation.

As mentioned above, issuing a Schedule 5 notice effectively stops the clock of the determination of an application, therefore the application was on hold between 15th May 2018 and 31st May 2018, and the determination deadline was extended by 16 days to 2nd July 2018.

We expect the operator to comply fully with the above improvement condition and implement abatement techniques/install abatement equipment should their assessment demonstrate a potentially significant noise impact.

Fugitive emissions

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

Monitoring

We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.

New monitoring methods and frequencies have been specified for the new RTO in Table 2.2.2 of the permit. We require the operator to monitor and report emissions from the RTO quarterly for the first year of monitoring, and annually thereafter. An improvement condition has been set (IP13) to reflect this.

These monitoring requirements have been imposed in order to satisfy the requirements of TGN 4.02 for Speciality Organic Chemicals Sector.

Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.

Reporting

We have specified reporting in the permit.

New reporting requirements have been specified for the new RTO in Table S2 of the permit. We require the operator to monitor and report emissions from the RTO quarterly for the first year of monitoring, and annually thereafter. An improvement condition has been set (IP13) to reflect this.

We made these decisions in accordance with the requirements of TGN 4.02 for Speciality Organic Chemicals Sector.

Operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance note: TGN 4.02 for Speciality Organic Chemicals Sector.

The proposed techniques/ emission levels for priorities for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for the facility.

We consider that the emission limits included in the permit reflect the BAT for the installation.

The permit conditions

Updating permit conditions during consolidation

The permit has not been consolidated.

Use of conditions other than those from the template

Based on the information in the application, we don't consider that we need to impose conditions other than those in our permit template, which was developed in consultation with industry having regard to the relevant legislation.

Raw materials

There have been no changes with regards to raw materials as part of this variation.

Waste types

No waste types can be accepted at the regulated facility.

Pre-operational conditions

Based on the information in the application, we do not consider that we need to impose pre-operational conditions.

Improvement conditions

Based on the information on the application, we consider that we need to impose improvement conditions. Details of the improvement conditions used can be found at Annex 1.

All previous improvement conditions have been marked as "Complete" in the permit following confirmation from the area officer.

Conditions where the consent of another person is needed.

Based on the information submitted in the application, we don't consider that it is necessary to impose conditions where the consent of another person is needed.

Incorporating the application

The applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process.

ANNEX 1: Pre-Operational Conditions

No pre-operational conditions have been set.

ANNEX 2: Improvement Conditions

The improvement conditions below have been set:

IP12

Following successful commissioning and establishment of routine steady operation of the RTO, the Operator shall undertake noise monitoring at the nearest local receptors.

This shall include:

- A full noise monitoring survey and assessment meeting the BS4142:2014 standard
- 1/3rd octave and narrow band (FFT) measurements to identify any tonal elements or low frequency noise
- Reference to the World Health Organisation guidelines for community noise

Upon completion of the work, a written report shall be submitted to Natural Resources Wales. If rating levels likely to cause adverse impact at sensitive receptors are

detected, the report shall include an assessment of the most suitable abatement techniques, an estimate of the cost and a proposed timetable for their installation.

This is to be completed within 6 months of the completion of commissioning of the RTO.

IP13

Emissions from the new RTO shall be monitored and reported on a quarterly basis rather than on an annual basis for the 1st year of monitoring.