

**Natural Resources Wales permitting decisions**

**Tata Steel UK Ltd (Tata Steel  
Colors)**

**Decision Document**

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## Variation

**The variation number is: EPR/BR7321IK/V007**

**The applicant /operator is: Tata Steel UK Ltd**

**The Installation is located at: Tata Steel Colors, Shotton Site, Shotton, Flintshire, CH5 2NH**

We have decided to issue the permit variation for Tata Steel Colors, operated by Tata Steel UK Ltd.

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.

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

## Key issues of the decision

### Background and Receipt of application

Tata Steel UK Ltd operate a steel coating plant at Shotton Works, Deeside. The main changes to their permit brought by this substantial variation are:

- 1) Consolidation of the permit to include all exchange of letters and minor variations to the permit since it was issued in March 2004.
- 2) Inclusion of the effluent treatment plant as an element of the permit. Although the effluent treatment plant will now be included as an element of the permit, there are no changes to discharge parameters or limits from what was previously allowed.
- 3) Inclusion of the details of operation for ColorCoat 1 line. Following the initial application for the permit in 2003, there have been numerous incremental improvements to the line. These have included the new Regenerative Thermal Oxidiser (RTO) in 2008 and the introduction of Chrome Free in 2012. An element of the Chrome Free requirement has been to enable Tata to continue to offer 40-year guarantees on leading products, which is something existing Chrome Free products cannot do. This is to be addressed by introducing a three layer, rather than two layer, paint system, to provide the extra protection required. During 2015/16, a major Capital Expenditure project was developed and approved. This project, "COBRA" is designed to introduce a new section of the line, replacing or removing many of the existing and/or redundant systems, thus providing ColorCoat 1 with the capacity to produce the future products with a single pass through the line. The new section will include a new convection oven and associated control systems (RTO). The potential environmental impact of RTO emissions have been assessed.

As part of the application the operator submitted a revised Habitat and Water Level Management Plan in respect of the change of quench system on ColorCoat 1 line. The quench system will be altered to satisfy an improvement condition in the previous permit to address the differences in water consumption between ColorCoat 1 and ColorCoat 2 (CC1 being total loss, feeding the Site of Special Scientific Interest (SSSI),

and CC2 being mostly close loop with a cooling tower). The changes to the quench system will lead to changes in the water level of the Shotton Lagoons and Reedbeds SSSI.

The application was submitted on 10<sup>th</sup> March 2017. The duly making assessment of the application was carried out on 31<sup>st</sup> March 2017 and it was determined that the application could not be duly made at that point because the application fee had been incorrectly calculated, the incorrect fee had been paid, and the operator had not submitted the technical specification for the proposed RTO. The operator submitted a revised calculation for the application fee on 3<sup>rd</sup> April 2017, and the technical specification for the RTO on 5<sup>th</sup> April 2017. The additional fee payable was paid on 7<sup>th</sup> April 2017. The application was therefore considered duly made on 7<sup>th</sup> April 2017. 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. The statutory deadline for determining the application was 7<sup>th</sup> August 2017. However, this deadline was extended at later dates due to having to ask the operator for further information on air quality and noise (see sections on Air and Noise) (which effectively stopped the clock on the application for two separate periods of time), and following three requests for extensions of 3 months, 1 month and 20 days to the determination deadline by NRW on 6<sup>th</sup> September 2017, 29<sup>th</sup> January 2018 and 2<sup>nd</sup> March 2018 respectively.

### **Confidential information**

No claim for commercial or industrial confidentiality has been made.

### **Identifying confidential information**

We have not identified 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 (PPS) and our Working Together Agreements (WTAs).

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

We sent copies of the Application to the following bodies, which includes those with whom we have “Working Together Agreements”:

- **Flintshire County Council**
- **Public Health Wales**

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

The consultation started on **04/05/2017** and ended on **05/06/2017**.

An advert was also placed on our website.

Further details along with a summary of consultation comments and our response to the representations we received can be found in Annex 1. We have taken all relevant representations into consideration in reaching our determination.

### **Operator**

We are satisfied that the applicant is the person who will have control over the operation of the facility, including new or changed activities included in this variation. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator.

### **The facility**

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 1.1 Part A(1) (a) (as in previous permit) – Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts

Section 5.4 Part A(1) (a) (ii) (new activity) – Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment – physico-chemical treatment

Section 2.1 Part A(2) (c) (Section 2.1 A(2) (b) in the previous permit) – Applying protective fused metal coatings with an input of more than 2 tonnes of crude steel per hour

Section 6.4 Part A(2) (a) (as in previous permit) – Surface treating substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating, in plant with a consumption capacity of more than 150kg or more per hour than 200 tonnes per year

Recoiling and trimming – directly associated activity

Together, these listed and directly associated activities comprise the Installation.

The operator had initially stated in their application that the new activity to be included in the permit for the effluent treatment plant was listed activity Section 5.7 Part A(1) (a). However, following email correspondence with the operator it was established that the activity for the effluent treatment plant should be 5.4 Part A(1) (a) (ii). The operator had also initially proposed in their application that listed activity Section 2.3 be included in the permit. This was also deemed unnecessary following email correspondence with the operator.

## European Directives

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

## The site



Tata Steel Colors, which extends over 500 acres, is the operational headquarters for a group of works specialising in the manufacture of coated coiled steel sheets. It is situated approximately 1Km from Shotton Town Centre, Deeside, Grid Reference 330274,370560. The site is located in an area predominantly surrounded by agricultural land to the east, marsh land to the west, the River Dee to the south and Deeside Industrial Estate to the north. The site is bounded to the north and east by Chester Road (A548).

The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit and the operator is required to carry on the permitted activities within the permitted site boundary which is outlined in green on the plan.

#### **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).

#### **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 relocated stack adjacent to 24 Bay in the Coatings 2 plant (NRG 29729 70555), hereafter known as "the search point".

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)**

River Dee

Dee Estuary

Shotton Lagoons and Reedbeds

#### **Local Wildlife Sites (LWSs) (within 2Km of the search point)**

Shotton Steelworks

River Dee

Top-y-fron Dingle and Kelserton Brook

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

Ancient Semi Natural Woodland

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

Dee Estuary (England)

Dee Estuary (Wales)

Deeside and Buckley Newt Sites

Halkyn Mountain

River Dee and Bala Lake (Wales)

**Special Protection Areas (SPAs) (within 10Km of the search point)**

Dee Estuary (England)

Dee Estuary (Wales)

**Ramsar Sites (within 10Km of the search point)**

Dee Estuary (England)

Dee Estuary (Wales)

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 (NO<sub>x</sub>), carbon monoxide (CO) and Volatile Organic Compounds (VOCs). However, NO<sub>x</sub> 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<sub>x</sub>, potential noise (disturbance) from the RTO, and changes to water levels in the Shotton Lagoons and Reedbeds SSSI caused by a change to the quench system on ColorCoat 1.

The features of the Dee Estuary Ramsar site mirror very closely those of the SAC and SPA, with the exception that the Annex I tern species do not qualify under the Ramsar Convention criteria and the inclusion of the Natterjack Toad. The breeding colony of vulnerable Natterjack Toad at Red Rocks SSSI is dependent on coastal habitats occurring above Highest Astronomical Tide. They are therefore not considered to be a feature of the European marine site. Red Rocks SSSI is outside the screening distance for the emissions from the new RTO. There is therefore not likely to be an impact from this variation. The other Ramsar features have been assessed under 'Dee Estuary SAC' and 'Dee Estuary SPA'. Given the low risk of the activities, it was considered that an assessment of the SAC and SPA features was sufficient.

The operator's Habitat and Water Level Management Plan, submitted in respect of the change of quench system on ColorCoat 1, was included with the Form 1 and Appendix 4 sent to NRM. It was noted by NRM however, that the Plan submitted as part of the application was not the version previously approved by NRW in talks with the operator. The reason for this is that talks between NRW and the operator with regards to the Habitat and Water Level Management Plan took place after the application was submitted. An email was sent to the operator on 30<sup>th</sup> October 2017 asking if they would like to use the Plan agreed with NRW after the application was submitted instead of the Plan submitted with the application, for purposes of carrying out the habitats assessment and determining the application. The operator replied on 2<sup>nd</sup> November 2017 confirming that they would like to do that. NRM concluded that there is unlikely to be a significant effect of the application, upon the common tern feature of the Dee Estuary SPA and Ramsar site, and that the revisions indicated to re-direct water to other lagoons and the outline commitment to undertake tree removal, will benefit the "reedbed" feature of the Shotton Lagoons and Reedbeds SSSI.

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

### **Dee Estuary (SAC/Ramsar)**

The potential impact pathway which was assessed for this wildlife site (where an impact pathway could exist in principle) was nutrient enrichment. Nutrient enrichment was considered a potential impact pathway for the following designated features: Estuarine and intertidal habitats (Estuaries, Mudflats and sandflats not covered by seawater at low tide, *Salicornia* and other annuals colonising mud and sand (pioneer saltmarsh), Atlantic salt meadows *Glauco-Puccinellietalia*), and Coastal habitats (Annual vegetation of drift lines). We are satisfied that NOx emissions from the proposed new activities will not have a likely significant effect on the features of the SAC/Ramsar. Further information can be seen in the “Air” section below.

### **Dee Estuary (SPA/Ramsar)**

The potential impact pathways which were assessed for this wildlife site (where an impact pathway could exist in principle) were nutrient enrichment, acidification, disturbance (noise), and changes to water level. Nutrient enrichment and disturbance (noise) were considered potential impact pathways for the following designated features: Bar-tailed godwit *Limosa lapponica*, Common tern *Sterna hirundo*, Little tern *Sterna albifrons*, Sandwich tern *Sterna sandvicensis*, Redshank *Tringa totanus*, Shellduck *Tadorna tadorna*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey plover *Pluvialis squatarola*, Knot *Calidris canutus*, Dunlin *Calidris alpina*, Black-tailed godwit *Limosa limosa*, and Curlew *Numenius arquata*. Acidification was considered a potential impact pathway for the following designated features: Common tern *Sterna hirundo*, Shellduck *Tadorna tadorna*, Teal *Anas crecca*, Pintail *Anas acuta*, and Curlew *Numenius arquata*. We are satisfied that NOx emissions from the proposed new activities will not have a likely significant effect on the features of the SPA/Ramsar. Further information can be seen in the “Air” section below. We are also satisfied that any disturbance (noise) from the activities will not have a likely significant effect on any of the features. Further information can be seen in the “Noise” section below. Changes to water level was considered a potential impact pathway only for Common tern *Sterna hirundo*. Changes to the quench system on ColorCoat 1 line will change water levels in the Shotton Lagoons and Reedbeds SSSI (which is also part of the Dee Estuary SPA), and may allow predators to disturb/destroy common tern nests on artificial islands within the lagoon. We identified that significant effects from this impact pathway could not be ruled out, and we therefore carried out

an appropriate assessment of the effects. It was concluded that although there was initially an impact pathway and significant effects cannot be ruled out, the operator's submitted Habitat and Water Level Management Plan explains how they will avoid any negative impacts on the common tern nesting in the Shotton Lagoons and Reedbeds SSSI. This plan was approved by internal NRM colleagues, who confirmed that there is unlikely to be a significant effect of the application upon the common tern feature of the Dee Estuary SPA and Ramsar site. It was concluded that adverse effects on site integrity could be ruled out.

### **Halkyn Mountain (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 was considered a potential impact pathway for the following designated features: Dry grassland (*Calaminarian* grassland of the *Violetalia calaminariae* type), Dry heathland habitats (European dry heath), Dry grassland (Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)), Fens and wet habitats (*Molinia* meadows on chalk and clay (*eu-Molinion*)), and Amphibia (Great crested newt *Triturus cristatus*). Acidification was considered a potential impact pathway for the following designated features: Dry heathland habitats (European dry heath), and Amphibia (Great crested newt *Triturus cristatus*). We are satisfied that NO<sub>x</sub> 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 Amphibia (Great crested newt *Triturus cristatus*). 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.

### **River Dee and Bala Lake (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 only for Riverine habitats and running waters (Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion*

vegetation), and disturbance (noise) was only considered a potential impact pathway for Mammals of riverine habitats (European otter *Lutra lutra*). We are satisfied that NOx 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. We are also satisfied that any disturbance (noise) from the activities will not have a likely significant effect on any of the features. Further information can be seen in the “Noise” section below.

### **Deeside and Buckley Newt 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 Amphibia (Great crested newt *Triturus cristatus*) and Dry woodlands and scrub (Old oak woods with *Ilex* and *Blechnum* in the British Isles), and disturbance (noise) was only considered a potential impact pathway for Amphibia (Great crested newt *Triturus cristatus*). We are satisfied that NOx 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. We are also satisfied that any disturbance (noise) from the activities will not have a likely significant effect on any of the features. Further information can be seen in the “Noise” section below.

### SSSI Assessment

#### **River Dee, Dee Estuary, and Shotton Lagoons and Reedbeds**

Aspects of the proposed activities which were considered potentially damaging to the features of the three SSSIs listed above were potential for increased ammonia concentration and increased nitrogen deposition, potential for noise disturbance, and potential impact from changes to the water level in the Shotton Lagoons and Reedbeds SSSI. 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<sub>x</sub>, CO and VOCs from the proposed new RTO at Tata Steel Colors. 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 report initially submitted with the application was deemed unsuitable by NRW for determination purposes as it did not assess the impact of likely emissions on relevant wildlife sites, only on nearby human receptors. A Schedule 5 notice was issued by NRW to the operator on 11<sup>th</sup> July 2017, requesting that they assess the impact of likely emissions on relevant wildlife sites by comparing Process Contribution (PC) and where relevant Predicted Environmental Concentration (PEC) values with appropriate Critical Levels and Critical Loads for each site, and to re-submit an updated air quality modelling report demonstrating the results of the assessment. The deadline for the operator to provide the information was 8<sup>th</sup> August 2017. The updated report was submitted to NRW on 7<sup>th</sup> August 2017. As issuing a Schedule 5 notice effectively stops the clock of the determination of an application, the application was on hold between 11<sup>th</sup> July 2017 and 7<sup>th</sup> August 2017, and the determination deadline was extended by 27 days from 7<sup>th</sup> August 2017 to 3<sup>rd</sup> September 2017.

The updated report submitted on 7<sup>th</sup> August 2017 demonstrates how the operator has used ADMS modelling software to predict PCs and PECs from the new RTO. The operator's assessments are based on the following emission limit values:



NO<sub>x</sub> 100mg/Nm<sup>3</sup>

CO 100mg/Nm<sup>3</sup>

VOCs 20 mg/Nm<sup>3</sup>

The RTO is designed to achieve emissions of no more than these values. The operator used five years (1996 – 2000) of observed meteorological data, comprising an hourly sequential data covering wind speed and direction from Hawarden along with cloud cover, surface temperature, precipitation and relative humidity from Shawbury.

### Assessment of human health impacts

For human health, the operator has assessed the impact of emissions on three types of locations:

- 1) Residential areas – twelve receptors in Connah's Quay and one in Garden City – short term and long term exposure assessed.
- 2) Commercial premises – three receptors along the south bank of the Dee in Connah's Quay and nine in an arc from north to south-east of the Coatings 2 plant – only short term exposure assessed
- 3) Other receptors – eight receptors along the A548 to the north and north-west of the Coatings 2 plant and one at Tata Steel gatehouse – only short term exposure assessed

The operator has predicted that the impact of emissions of NO<sub>2</sub>, 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.

Four emission scenarios were included in the human modelling study (maximum and minimum waste gas flowrate coupled with maximum and minimum waste gas temperature). The dispersion model was run with five different years' meteorological data for each scenario and the results summarised were the maximum modelled values for any of the five years. For the residential receptors, the most significant long-term impact predicted was for benzene. Taking a worst-case assumption that 100% of the residual VOCs are benzene, the operator predicted that the annual average may be up to 0.028µg/m<sup>3</sup> (0.6% of the AQS) in Connah's Quay. The most significant short-term impact was for NO<sub>2</sub> – the operator predicted that the 99.8<sup>th</sup> percentile of hourly averages in residential areas may be up to 1.9µg/m<sup>3</sup> (1% of the AQS). These values are less than the 1% criterion for screening out long-term and less than the 10%



criterion for screening out short-term impacts. In the case of commercial and other receptors, annual average PCs are not relevant as there is no long-term population exposure. The most significant short-term impact was for NO<sub>2</sub> – the operator predicted that the 99.8<sup>th</sup> percentile of hourly averages may be up to 7.2µg/m<sup>3</sup> (3.6% of the AQS) at the gatehouse. This is less than the 10% criterion for screening out short-term impacts.

The following criteria used in the applicant's assessment mean that the modelling predictions are very conservative:

- The waste gas flow rate is at the maximum value (41,000 Nm<sup>3</sup>/h) throughout the year
- The waste gas temperature is at the minimum value (180 °C) throughout the year
- Pollutant emissions are continuously at the Emission Limit Value throughout the year
- VOC emissions are 100% benzene
- 100% of NO<sub>x</sub> emitted from the RTO is converted to NO<sub>2</sub> for the assessment of long term impacts and 50% for short term impacts
- Results are quoted for whichever year of meteorological data gave the highest figure

NRW's check modelling agrees with the operator's for human health impacts. The predicted short and long-term pollutant concentrations are likely to be less than the screening criteria, and therefore impact is likely to be insignificant for human receptors.

#### Assessment of impacts on wildlife sites

For wildlife sites, the operator has assessed the impact of emissions on all sites within the relevant screening distances, as specified in the "Biodiversity, heritage, landscape and nature conservation" section above. The operator has predicted that the impact of emissions of NO<sub>x</sub> at all European sites within 10km of "the search point" and non-statutory sites within 2km of "the search point" will not exceed Critical Levels. They predict that the only habitat type for which the Critical Load may be exceeded would be acid dune grasslands, and in this case the Critical Load is already exceeded by the current nitrogen deposition rates and the proposed RTO emissions would add less than 2% to the existing load.

For wildlife sites, only results for the maximum waste gas flow and minimum waste gas temperature scenario were presented since the assessment for residential receptors demonstrated that this was the scenario giving the greatest impacts. The results summarised were annual average and maximum daily mean concentrations and annual mean deposition rates for nitrogen and acidity. PCs were compared to relevant Critical levels (pollutant concentrations) and Critical loads (deposition rates). In the first instance, the Defra guidance on risk assessments for emissions to air was used to identify sites where the potential impact of the emissions can be screened out as insignificant. Where the PCs could not be screened out as insignificant, site-specific background concentrations and deposition rates were used to determine the overall PEC or the total deposition rate and these were compared to Critical Levels and site-specific Critical Loads. The operator predicted that the PCs at Deeside and Buckley Newt Sites SAC, Halkyn Mountain SAC, and Top-y-Fron Dingle and Kelseron Brook LWS fall below the insignificance criteria for both long-term and short-term Critical Levels and these were not assessed further. Background NO<sub>x</sub> concentrations for the receptor giving the highest PC at each of the remaining sites were obtained from the Air Pollution Information System (APIS) website, and the maximum PEC was calculated for each site. For all the sites, the maximum PECs were lower than the long-term and short-term Critical Levels and hence no significant impact on wildlife would be expected. The operator used 3kgN/ha/year as an initial screening value for Critical Loads. The modelled nitrogen deposition rates at Deeside and Buckley Newt Sites SAC, Halkyn Mountain SAC, and Top-y-Fron Dingle and Kelseron Brook LWS all fell below 1% of this value so these sites were not assessed further. For the remaining sites, current nitrogen deposition rates for the receptor giving the highest PC were obtained from APIS to calculate an overall deposition figure, which was then compared to Critical Loads for all habitat types at each site. As mentioned above, the results of this assessment was that the only habitat type for which the Critical Load may be exceeded would be acid dune grasslands.

Similar to the assessment of human health impacts, the following criteria used in the applicant's ecological assessment mean that the modelling predictions are very conservative:

- The waste gas flow rate is at the maximum value (41,000 Nm<sup>3</sup>/h) throughout the year
- The waste gas temperature is at the minimum value (180 °C) throughout the year
- Pollutant emissions are continuously at the Emission Limit Value throughout the year
- Deposition rates are calculated assuming that 100% of NO<sub>x</sub> emitted from the RTO is converted to NO<sub>2</sub> (deposition rates for NO are less than 10% of those for NO<sub>2</sub>)
- Results are quoted for whichever year of meteorological data gave the highest figure
- Results are quoted for the receptor giving the highest PC and are not representative of the whole of the protected site
- Critical loads for the most sensitive habitat type have been used, regardless of whether this habitat is present at the receptor giving the highest PC

NRW's check modelling can replicate the operator's predicted air concentrations at habitats sites. However, we could not replicate the operator's deposition predictions. Our checks indicated that the operator may have overestimated the nutrient nitrogen deposition.

Using the operator's predicted NO<sub>x</sub> concentration at Shotton Lagoons and Reedbeds SSSI, and the recommended APIS critical loads, NRW predicted nutrient nitrogen deposition contributions are likely to be greater than 1% of the minimum critical load (whereas the operator predicted that they would be less than 1% of the minimum critical load), where the background is already in exceedance. At the Dee Estuary SAC NRW predicted nutrient nitrogen contributions are likely to be approximately 1% of the critical load (whereas the operator predicted that they would be nearly 2% of the critical load).

However, following consultation with internal NRW colleagues, it was confirmed that it would be acceptable to use the higher end of the Critical Load range for Shotton Lagoons and Reedbeds SSSI. This meant that the PC would become less than 1% of the Critical Load for that site, and therefore insignificant. It was also confirmed that the nearest dunes to the site are at West Kirkby in England and then at Point of Ayr in Wales, which are 17.5Km and 21Km away respectively, and are therefore outside the

10Km threshold within which features need to be considered. This meant that the PC values obtained for acid dune grasslands could be disregarded.

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

We have decided that emission limits should be set for the parameters listed in the permit.

It is considered that the ELVs/ equivalent parameters or technical measures will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.

### Water

No additional release points to surface water will be introduced as part of this variation. There will be changes to the quench system which will lead to changes in the water level of the Shotton Lagoons and Reedbeds SSSI, however there will be no changes to the composition of water discharged into the SSSI.

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 changes to water emission limits in the permit as part of this variation.

### Soil

There are no changes to the site condition report as part of this variation.

### Odour

All new equipment brought by this variation is fired on natural gas. We are satisfied that there will not be any 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 assessment of the application and its noise potential has been carried out as part of the permitting process. We consider that the application will not have a significant noise impact.

The operator did not initially submit a noise assessment as part of their application. A Schedule 5 notice was issued by NRW to the operator on 18<sup>th</sup> October 2017, requesting that they assess the impact of sound on nearby sensitive human receptors and designated habitats 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 8<sup>th</sup> November 2017. The first noise assessment was submitted to NRW on 2<sup>nd</sup> November 2017. However, some parts of the document needed clarification, and a satisfactory assessment was not considered to have been submitted until 19<sup>th</sup> December 2017. As issuing a Schedule 5 notice effectively stops the clock of the determination of an application, the application was on hold between 18<sup>th</sup> October 2017 and 19<sup>th</sup> December 2017, and the determination deadline was extended by 62 days from 3<sup>rd</sup> December 2017 to 3<sup>rd</sup> February 2018 (having already been extended to 3<sup>rd</sup> September as a result of the first Schedule 5 notice with regards to air, and then extended again by 3 months to 3<sup>rd</sup> December as a result of a request for determination extension by NRW).

The information submitted by the operator demonstrates that the likely noise impact from each RTO on ColorCoat 1 for the nearest residential receiver (at Leighton Court) is 21dB, and that the combined noise impact of two identical noise sources next to each other is +3dB. This means that the likely combined noise impact of the two RTOs is 24dB for the nearest receiver at Leighton Court. This level is considered to be well below the noise levels expected in typical urban areas, with the operation of the proposed new RTO having no significant effect on noise levels for the local community. NRW agrees with these findings.

The information submitted by the operator demonstrates that the likely noise impact from the two RTOs taken together on the Shotton Lagoons and Reedbeds SSSI, the closest designated habitat, is 28dB. From evidence and reports presented, as well as personal experience on site, the operator believes that the installation of the new RTO on ColorCoat 1 will not have a discernible noise impact or effect on any element of the SSSI. NRW agrees with these findings.

Our conclusion is that the proposed activities are not likely to have a significant noise impact on nearby sensitive human receptors or designated habitats sites.

Permit condition 3.4.1 requires that emissions from the activities are free from noise at levels likely to cause pollution outside the site, as perceived by an officer of NRW. We are satisfied that this condition will be sufficiently protective in conjunction with the measures described by the applicant for minimising noise production at the installation.

### **Fugitive emissions**

There will be no fugitive emissions from the combustion of natural gas within the plant.

### **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.

These monitoring requirements have been imposed in order to satisfy the requirements of TGN 2.07 for The Surface Treatment of Metals and Plastics by Electrolytic and Chemical Processes, and TGN 7.01 for Water Discharge and Groundwater (from point source) Activity Permits.

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.

We made these decisions in accordance with the requirements of TGN 2.07 for The Surface Treatment of Metals and Plastics by Electrolytic and Chemical Processes, and TGN 7.01 for Water Discharge and Groundwater (from point source) Activity Permits.

## Operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes: TGN 2.07 for The Surface Treatment of Metals and Plastics by Electrolytic and Chemical Processes, and TGN 7.01 for Water Discharge and Groundwater (from point source) Activity Permits.

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.

In addition to operating techniques already listed in the operator's permit, we have included four additional operating techniques, requiring the operator to operate the installation in accordance with information submitted for this application.

## The permit conditions

### Updating permit conditions during consolidation

We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permit(s).

The operator has agreed that the new conditions are acceptable.

### 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

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

### 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 do not consider that we need to impose improvement conditions.



### **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**

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

These descriptions are specified in the Operating Techniques table in the permit.

## **ANNEX 1: Consultation Reponses**

### **A) Advertising and Consultation on the Application**

The Application has been advertised and consulted upon in accordance with Natural Resources Wales Public Participation Statement. The way in which this has been carried out along with the results of our consultation and how we have taken consultation responses into account in reaching our draft decision is summarised in this Annex. Copies of all consultation responses have been placed on Natural Resources Wales public register.

#### **1) Consultation Responses from Statutory and Non-Statutory Bodies**

No responses were received from statutory and non-statutory bodies.

#### **2) Consultation Responses from Members of the Public and Community Organisations**

A number of the issues raised during the consultation process are outside Natural Resources Wales remit in reaching its permitting decisions. Specifically questions were raised which fall within the jurisdiction of the planning system, both on the development of planning policy and the grant of planning permission. Specific planning issues raised related to the location of the site, the location of the stack, traffic movements and emissions from off-site traffic movements.

Guidance on the interaction between planning and pollution control is given in PPS23 / Planning Policy Wales. It says that the planning and pollution control systems are separate but complementary. We are only able to take into account those issues, which fall within regulatory scope of the Environmental Permitting Regulations.

**a) Representations from Local MP, Assembly Member (AM), Councillors and Parish / Town / Community Councils**

No responses were received from Local MP, AM, Councillors and Parish/Town/Community Councils.

**b) Representations from Community and Other Organisations**

No responses were received from Community and Other Organisations.

**c) Representations from Individual Members of the Public**

No responses were received from Individual Members of the Public.

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