

Permitting Decisions- Bespoke Permit

We have decided to grant the permit for Redcar Plastics Recycling Facility operated by Biffa Waste Services Limited.

The permit number is EPR/GP3947QE.

The application is for the operation of a plastics recycling facility and an on-site effluent treatment plant for the wastewater from the plastics recycling facility.

These two operations are regulated in the following manner:

- The plastics recycling facility regulated as a waste operation.
- The effluent treatment plant regulated as an S5.4 A1 (a) (ii) activity (treatment for disposal by physico-chemical means).

The site will accept baled post-consumer HDPE milk and juice bottles for treatment. This waste will be stored in bales in dedicated external bays with an impermeable surface. The HDPE milk and juice bottles will be sourced from Biffa's internal operations and third-party sites. The site will process up to 30,000 tonnes per annum in an Advanced Recycling Facility (ARF).

The ARF process consists of the breaking of baled waste; removal of contaminants; dry granulation; prewash; wash reactor; flake drying; automatic density separator; label removal; flake sorting, flake decontamination and palletisation; bagging and testing of the final product. The ARF process will take place within the main processing building on impermeable surfacing. No handling, processing or treatment operations will be carried out on the bales outside the main processing building.

The final product of the ARF facility will be clean, food grade rHDPE which will be stored inside the building in bags, and which will be sold for use in operations such as HDPE milk bottle production. The plastics recycling facility will have a product output of approximately 17,000 tonnes per year.

The plastics recycling facility will use water as an integral part of the processing of the waste at a rate of approximately 1.75 -2.0m³ water per tonne of plastic waste recycled. Wastewater produced from the ARF wash plant process will be sent to a dedicated drainage system. This shall route all process effluent into two sumps that will be directed to a wastewater treatment unit. The wastewater will initially be treated to remove large solids from the effluent, and then be passed through a Dissolved Air Flotation (DAF) system. The screened solids from this process will be further treated to remove liquids via a dewatering system. Liquids removed will be further processed through the DAF unit.

The discharge from the Biffa effluent treatment plant will be directed to the Sembcorp Utilities (UK) Limited Wilton Estate drainage system (Sembcorp) before final discharge to Dabholm Gut, a narrow tidal inlet off the Tees Estuary, in accordance with the Sembcorp environmental permit, QR.25/04/1528.

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 provides a record of the decision-making process. It:

- summarises the decision making process in the decision considerations section to show how the main relevant factors have been taken into account
- highlights key issues in the determination
- shows how we have considered the consultation responses.

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

Read the permitting decisions in conjunction with the environmental permit.

Key issues of the decision

Nature of Discharge ('Direct' or 'Indirect') and Applicable BAT-AELs.

In the permit application, the Operator (Biffa) proposed that the discharge from their effluent treatment plant to Sembcorp should be regulated as an indirect discharge as defined in the Waste Treatment BREF BAT-conclusions.

The Waste Treatment BREF BAT-conclusions defines:

- 'direct discharge' as a discharge to a receiving water body without further downstream waste water treatment.
- 'indirect discharge' as a discharge which is not a direct discharge.

Biffa proposed that Sembcorp carried out further downstream treatment of their effluent.

Dependent on whether a discharge is 'direct' or 'indirect', different BAT-AELs apply:

- Table 6.1 = BAT-associated emission levels (BAT-AELs) for direct discharges to a receiving water body.
- Table 6.2 = BAT-associated emission levels (BAT-AELs) for indirect discharges to a receiving water body.

Biffa had confirmed that the treatment of effluent within their new plant would result in emissions to Sembcorp that contained approximately 2,300mg/l chemical oxygen demand (COD) and 400mg/l total suspended solids (TSS).

If the effluent was regulated as an 'indirect discharge' then there would be no BAT-AELs applicable for COD and TSS although the Environment Agency could still impose emission limit values if it was considered appropriate.

However, if the effluent was regulated as a 'direct discharge', BAT-AELs for COD and TSS would be applicable to the discharge:

- COD BAT-AEL = 30 to 300mg/l and TSS BAT-AEL = 5 – 60mg/l.

From the data presented in the application, the discharge from the effluent treatment plant would not comply with BAT-AELs for COD and TSS.

Biffa further presented a case that their effluent discharge should be regulated as an 'indirect discharge' in two letters submitted to the Environment Agency on 16/12/22 and 31/12/2022.

We have decided that the Biffa discharge from their effluent treatment plant to Sembcorp is a direct discharge as it undergoes no further downstream treatment at Sembcorp prior to discharge to the receiving waters, Dabholm Gut. The BAT-AELs for 'direct' discharges therefore apply and include those for COD and TSS.

Operation of Sembcorp Effluent Handling Facility.

We have decided that the infrastructure present at Sembcorp which "includes a series of drains, storage lagoons, effluent equalising tanks and buffer tanks" (as agreed by Biffa in a letter of 16/12/2022) does not carry out further downstream treatment of the discharge from the Biffa effluent treatment plant and that, therefore, the BAT-AELs for 'direct discharges' apply to the discharge and are included in Table S3.1 of the environmental permit.

In a Biffa letter of 31/12/2022, the Operator proposed that there is a form of treatment delivered at Sembcorp by a 'tilt plate separator' and an aeration process. The 'tilt plate separator' proposed would remove suspended solids and oils. Biffa proposed that reducing the suspended solids loading would also reduce the level of insoluble organic matter of the combined effluent which would also reduce the biological oxygen demand (BOD) loading. The presence of a weir within the effluent transport system they suggested would also have the effect of removing suspended solids and further aerating the effluent.

We do not agree that Biffa has demonstrated this is an active form of abatement/effluent treatment. To succeed in this, Biffa would have had to demonstrate that the 'tilt plate separator' and weir have been designed, operated and maintained to deliver a defined level of suspended solids removal. We do not consider an interceptor in a drain as effluent treatment – more protection against abnormal operation. The tilt plate separator is not delivering any abatement above that delivered by an interceptor.

In their letter of 31/12/2022, Biffa proposed that "The 'tilt plate' or parallel plate interceptor is also listed within BAT 20 [of the Waste Treatment BAT-conclusions] as physical separation technique". Such a device is not explicitly included in BATc 20 which does include 'Physical separation e.g. screens, sieves, grit separators, oil-water separation or primary settlement tanks' but only as preliminary and primary treatment. Other techniques are also identified for solid removal and BAT is to use a combination of these techniques and not just to rely on preliminary treatment.

In accordance with the Bref we expect that preliminary treatment is followed by a more effective full treatment option highlighted in BATc 20 and this is not the case at Sembcorp. The approved

techniques for solids removal processes within BATc 20 are coagulation and flocculation, sedimentation, filtration (e.g. sand filtration, microfiltration, ultrafiltration) and flotation. None of these are in operation at Sembcorp. The legal agreement between Sembcorp and Biffa explicitly rules out use of the more complex filtration systems such as filter beds.

Biffa also noted in their letter of 16/12/2022 that BAT20 includes 'equalisation' as a technique to reduce emissions to water. We have decided, in relation to BAT20, that this is permitted only as a 'preliminary and primary treatment' – a first step to ensuring consistent feed to a further treatment process, of which there is none at Sembcorp.

In their letter of 16/12/2022, Biffa stated that "Equalisation is achieved by mixing and blending prior to disposal, which is also identified as an activity (D13) in Annex II of the Waste Framework Directive and is therefore considered as treatment in Environment Agency guidance RGN2, which states: "Note 5.4.3: Mixing and blending are considered to be "treatment" for the purposes of section 5.4".

This guidance only applies to the decision on whether a treatment process is covered by a Section 5.4 activity within the Environmental Permitting Regulations – for example if an operator is blending or mixing waste, this must be considered against the criteria in Section 5.4 to see if it constitutes a listed activity in its own right. The guidance does not attempt to cover whether the mixing and blending can also be considered to be treatment in any other context.

Guidance on Interpretation of the Industrial Emissions Directive (IED).

Paragraph 93 of the "UK Cross-Cutting Interpretation Guidance and Permitting Advice on the Best Available Techniques (BAT) Conclusions published under the Industrial Emissions Directive (IED)" (BATc UK Cross Cutting Interpretational Guidance) states that:

- *"A discharge into a collection sewer, owned and managed by another operator, which then discharges into the receiving environment should be considered to be a direct discharge unless there is an intermediate treatment process that abates the pollutants concerned. Dilution in the collection sewer by discharges from other locations does not constitute treatment."*

We have decided that the processes carried out at Sembcorp do not constitute an intermediate treatment process that abates the pollutants concerned. They are essentially dilution processes.

In their letter of 31/12/2022, Biffa say "Furthermore, Sembcorp are balancing the loading of specified parameters to enable their treatment system to produce a final effluent that meets their discharge compliance limits via a system of 'internal consents'. Compliance is managed by a system of internal sampling with diversion of non-compliant effluent to equalisation/buffer tanks/physical treatment where the liquid can be actively blended into the drainage system when flows allow". We have decided that in regard to the Sembcorp operation, "actively blended into the drainage system when flows allow" is essentially an alternative way of saying the effluents are diluted with other site effluents. In their letter of 16/12/2022, Biffa does note the Sembcorp infrastructure of "drains, storage lagoons, effluent equalisation tanks and buffer tanks" is "utilised for dilution management".

Biffa Contract with Sembcorp.

Biffa proposes in their letter of 16/12/2022 that they have a legal agreement with Sembcorp which states that "The parties acknowledge that Sembcorp shall provide only limited treatment of the Effluent in accordance with the Management Procedure. No chemical treatment and/or filter

treatment (involving passing the Effluent through filter beds) will be undertaken by Sembcorp and the Purchaser shall be responsible at all times for ensuring that no Effluent is discharged into the Effluent System that contains substances requiring such treatment”.

If the Sembcorp facilities were to treat effluent, they would fall under either a Section 5.3 or Section 5.4 activity themselves (depending on the waste classification of the effluent), as they currently discharge (and so would be ‘treating’) almost 50,000 tonnes (cubic metres) per day. Sembcorp’s environment permit does not include any waste treatment scheduled activities – no S5.3 or S5.4 activities. Essentially the Sembcorp permit is a water discharge’ permit and Sembcorp are not subject to the BAT-Conclusions. Any discharge to Sembcorp from another operator/site would be classed as a ‘direct discharge’. The onus then falls on the waste producer (Biffa) to comply with the BAT-Conclusions/BAT-AELs at the point where the emission leaves the installation.

Article 15(1) of the Industrial Emissions Directive (IED).

This Article states “The emission limit values for polluting substances shall apply at the point where the emissions leave the installation, and any dilution prior to that point shall be disregarded when determining those values. With regard to indirect releases of polluting substances to water, the effect of a water treatment plant may be taken into account when determining the emission limit values of the installation concerned, provided that an equivalent level of protection of the environment as a whole is guaranteed and provided this does not lead to higher levels of pollution in the environment”.

This confirms that, even if the Sembcorp facility were regarded as a treatment facility and if the Biffa discharge were to be regarded as an ‘indirect release’, there is clearly a principle that an intervening treatment needs to be effective in reducing the emissions of concern if it is to be taken into account in setting ELVs.

In this case, we do not consider simple blending, mixing or equalisation alone nor the use of a ‘tile plate separator’ or dilution of waste water as BAT or effective for treating Biffa’s effluent. Therefore, even if we accepted this was an indirect discharge we would still decide to set the emission limit values relevant for a direct discharge because we do not consider that the intervening ‘treatment’ would abate the pollutants and protect the environment to the same standard.

Consistency of Regulation of Companies on Wilton Estate Discharging to Sembcorp.

Biffa also noted in their letter of 16/12/2022 that “A review of other Installation permits on the Wilton estate suggests that it has been accepted that any discharges to the combined drainage system that we [Biffa] would discharge into are regulated as an indirect discharge. Therefore, applying a similar approach at this site would be consistent with these Installation permits”.

Whilst some existing installation permits on the Wilton estate may previously have been regulated in this manner, the Environment Agency is actively taking every opportunity to update these permits to reflect our decision that such discharges should now be regulated as ‘direct’ discharges. For example, all installation permits on the Wilton estate subject to LVOC (Large Volume Organic Chemicals) review have been updated in accordance with their discharges being ‘direct discharge’ with all the BAT-AELs and BAT-Conclusions requirements that such direct discharges entail included within those permits. We will continue to take the opportunities in further permit review processes, such as those that may be initiated by the UK version of the EU “The Common Waste Gas Management and Treatment Systems in the Chemical Sector” to

update permits in accordance with this approach. We can also initiate a permit variation outside the review process if we consider this necessary and appropriate.

Having decided that the Biffa discharge from their effluent treatment plant is a 'direct discharge' to receiving waters, the BAT-AELs for direct discharges apply and have been transposed into the environmental permit as emission limit values.

Biffa has confirmed during discussions on permit determination that optimisation of their existing effluent treatment plant has already reduced the concentration of TSS and COD within their effluent to values less than those proposed in the application documentation but still above their respective BAT-AELs. They are confident that further upgrades to that plant, or installation of a new effluent treatment plant, will allow them to comply with the BAT-AELs for TSS and COD in their effluent discharged from the facility. Therefore, we consider that they should be able to comply with these BAT-AELs, but we require confirmation of this before they can commence discharge and the relevant limits be applied.

However, because we are aware that Biffa cannot currently comply with these ELVs, the permit at the time of issue does not authorise the Biffa effluent to be discharged to receiving waters. A pre-operational condition (PO1) in table S1.4 has been included in the environmental permit that requires Biffa to demonstrate that they can comply with the BAT-AELs for COD and TSS (total suspended solids) before discharging to receiving waters can commence. All BAT-AELs for emissions to water apply at the point where the emission leaves the installation. During this interim period, Biffa can operate the plastics recycling facility provided no liquid effluent is directly discharged to receiving waters via Sembcorp or any other route.

Habitats Assessment.

Pathway.

There are a number of protected conservation sites within the 10km screening distance that could potentially be impacted by this Biffa operation - North York Moors Special Area of Conservation (SAC), North York Moors Special Protection Area (SPA), Teesmouth & Cleveland Coast SPA and Teesmouth & Cleveland Coast Ramsar.

As there are no point source emissions to air from this proposed permission and no hydrological connectivity with North York Moors SAC and SPA, the pathways for impacts on these two sites were ruled out. However, the effluent from this activity is discharged directly into the Teesmouth & Cleveland Coast SPA, Ramsar and SSSI via the Sembcorp drainage system as it discharges into Dabholm Gut which is included within the Teesmouth & Cleveland Coast protected conservation sites.

1. Nutrient Addition.

The Teesmouth and Cleveland Coast SPA and Ramsar sites have undergone site condition assessments, by Natural England and are currently in an unfavourable condition (with only 0.77% of the entire site being in a favourable conservation status). The unfavourable conditions are mostly due to water pollution pressures, in particular excessive nutrients. Under the Conservation of Habitats and Species Regulations 2017, (Habitats Regulations) a Habitats Regulations Assessment (HRA) must be undertaken for this proposed permission as it has the potential to impact the designated sites - this includes the potential for addition of nutrients into the same areas of the designated site which are already in unfavourable conservation status.

The Dutch N caselaw 2018 ('Dutch Nitrogen' joined Cases C-293/17 and C-294/17) has reaffirmed that, where an existing adverse effect is observed on a designated habitats site, any new plans, projects and permissions (PPP) must demonstrate they will not contribute further to this adverse effect where the site is at unfavourable conservation status. Natural England have identified Teesmouth & Cleveland Coast SPA and Ramsar as nutrient neutrality areas. This means that adverse effects from excess nutrients are currently occurring, and additional nitrogen should not be added to Teesmouth & Cleveland Coast SPA and Ramsar as this will result in increased adverse effects. This means that either no new nitrogen should be discharged at this location by any proposed permission or, if nitrogen is to be discharged, it should be offset or mitigated so there is no net increase.

Teesmouth & Cleveland Coast SPA and Ramsar are designated for several breeding and non-breeding bird species. Ammoniacal nitrogen can be toxic to fish which can in turn impact the abundance and distribution of many bird species if they rely on fish as a food resource. High levels of ammoniacal nitrogen can also result in eutrophication and excess algae mat growth, which can smother vegetation, reduce available oxygen and reduce light penetration to plant and animal species living below the water surface. This again can impact bird species if they rely on vegetation or benthic species as a food resource. The site improvement plan for Teesmouth and Cleveland Coast from 2014 has stated that historical high levels of nutrient inputs have resulted in large areas of algae mats which may be contributing to a reduction in the abundance and distribution of several bird species due to inaccessible food resources.

Whilst there appears to be no recent update to this site improvement plan, site assessments of the underlying Teesmouth & Cleveland Coast SSSI, conducted by Natural England show the area remains in an unfavourable conservation status. The SSSI unit most representative of the potential impact in the discharge location is Unit 7 (River Tees), which as of 2018 appears to be recovering but is still in an unfavourable state. Adding nutrients to this recovering site risks hindering the objectives of the site improvement plan. Sampling information from the Catchment Planning System for the Tees (TRaC) water body (GB510302509900) shows there still remains high levels of nitrogen within the watercourse with a class boundary status of 'moderate' as of 2022.

As this activity was not operational, in order to understand the effluent quality of the proposed discharge, and potential impacts on the receiving environment, Biffa provided estimated discharge concentrations of ammoniacal nitrogen based on discharges from their similar plastics recycling facilities. The average concentration of ammoniacal nitrogen from the analyses provided was 8.25mg/l with the highest result recorded being 44.1mg/l. As this European site is already nutrient impacted, there can be no addition of nutrients without the potential for adverse effect as per the Dutch N caselaw. The proposed Biffa facility must be permitted in such a manner as to reduce as far as practicably possible any nutrient input and, any nutrients discharged from this activity should be offset through nutrient mitigation.

The Waste Treatment BREF BAT-AEL for total nitrogen is the range of 10 – 60mg/l. This BAT-AEL only strictly applies when biological treatment of wastewater is used which is not the case at the Biffa Redcar facility. We are therefore free to set our own total nitrogen ELV for this discharge. The starting point of any limit should be BAT, but we can go beyond that if justified. This requirement for a limit on the concentration of nutrients runs parallel with requirements under the Habitats Regulations 2017 to mitigate the net increase in nutrient load.

We have decided not to include an emission limit value for nitrogen in the permit as this is already addressed by the requirement to limit nutrient nitrogen addition to Dabholm Gut in pre-operational condition, PO2.

A Habitats Regulations Assessment was sent to Natural England for consultation on 15th May 2023. The initial decision of 'no adverse effect', was dependent on the operator working towards a low nitrogen emission limit value. Advice was also sought from Natural England with regards to whether Nutrient Neutrality was applicable at this site. During consultation, Natural England commented that "*Applying BAT nutrient limits is not sufficient to avoid Adverse Effect on Site Integrity and nutrient neutrality is required. A critical part of the approach is that the mitigation needs to be in place before the discharge is permitted*".

Since this consultation response, the Environment Agency has worked with the operator and Natural England to address the issue over adding further nutrients (nitrogen) into a catchment that is already adversely impacted by those same nutrients. On 11th October 2023, the Environment Agency met with Natural England to discuss their concerns over the potential impact of aqueous discharges on the receiving waters.

On 4th March 2024, a second draft HRA was sent to Natural England, again proposing no adverse effect. This was now based on a pre-operational condition, PO2, requiring Biffa to demonstrate zero net nutrient addition to the protected conservation site before an aqueous discharge to Dabholm Gut could commence rather than a nitrogen emission limit value in the permit.

On 15th April 2024, Natural England agreed that, so long as the pre-operational condition was met, then adverse effect through addition of nutrients may be avoided.

Biffa have questioned the Dutch N caselaw and its use in conjunction with the Industrial Emissions Directive (IED) EPR Guidance on Part A Installations 2013. Biffa referenced the guidance which states that 'If a Community EQS is already being breached in a particular area, then a permit should not be issued to any new installation that would cause anything beyond an increase which, taking into account all the relevant local circumstances, is negligible.' Biffa interpreted this as allowing a further increase in nutrients added to the catchment area provided they could demonstrate it was 'negligible'.

We note the requirements of EPR and the Habitats Regulations are not mutually exclusive and one does not take priority over the other. Both need to be met, meaning that if this proposed permission could meet the requirements of EPR as far as negligible emissions are concerned, it would not necessarily mean 'no adverse effect' could be concluded as required by the Habitats Regulations assessment because a European site with observed adverse effects from excess nitrogen is potentially being impacted by further emissions of nitrogen leading to the Environment Agency being unable to conclude no adverse effect from the emissions.

The Habitats Regulations 2017 state competent authorities (in this case the Environment Agency) 'may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be)'.

The Habitats Regulations test is strict and precautionary meaning the Environment Agency has to refuse or mitigate a discharge which may have been allowed under another regime. This is affirmed by a series of ECJ (European Court of Justice) cases on Habitats Directive including C-293 & 294-17 [Dutch nitrogen case] where the court said: "In circumstances such as those at issue in the main proceedings, where the conservation status of a natural habitat is unfavourable, the possibility of authorising activities which may subsequently affect the ecological situation of the sites concerned seems necessarily limited." [para. 103]

Biffa have stated that the effluent treatment plant installed at the new Redcar Plastics Recycling Facility is superior to that already present at their Redcar sister site from which the proxy data on ammoniacal nitrogen releases had been obtained. Furthermore, this new treatment plant will be

upgraded to ensure compliance with BAT-AELs for total suspended solids and Chemical Oxygen Demand (or total organic carbon). Until real time data can be presented to the Environment Agency, the assumption that it will be superior resulting in potentially reduced aqueous nitrogen emissions is not sufficient to warrant a conclusion of 'no adverse effect' on the designated sites. It is also worth noting that, in accordance with Dutch N caselaw to avoid adverse effect, zero additional nitrogen should be added. This is consistent with UK case law including the Court of Appeal decision in Wyatt v Fareham BC which follows the European cases on interpretation of the Habitats Directive requirements. Therefore, unless the proposed Redcar facility will discharge zero nutrients, then we are unable to conclude no adverse effect without the pre-operational condition, PO2.

In order to prevent adverse effects from this proposed permission on the Teesmouth & Cleveland Coast SPA and Ramsar, nutrient neutrality must be achieved. This means no net increase in nitrogen should be added to the receiving environment. The decision to implement this via a pre-operational condition, rather than requiring Biffa to have mechanisms for no net nitrogen addition to the conservation site in place prior to permit issue, has been made to allow Biffa to carry out the parts of their proposed operations that do not pose a risk of adversely affecting the designated conservation sites – such as operation of the plastics recycling aspect of their proposed overall operation.

2. Toxic Contamination.

Emissions from a permitted process could be toxic or harmful to the flora and fauna of a protected habitat or conservation site and could result in damage to vegetation and/or other sensitive features. We have defined that potential impact as 'toxic contamination' in this section.

If the pollutant concentration in a discharge to a receiving water body exceeds the relevant and appropriate Environmental Quality Standards (EQSs), then we cannot rule out adverse impact from that discharge due to toxic contamination.

The aqueous discharge from the Biffa effluent treatment plant will be discharged into Dabholm Gut, a narrow tidal inlet off the Tees Estuary, via the Sembcorp Wilton Estate drainage management system. This system provides no treatment and mixes the Biffa effluent with other Wilton site effluents. As mentioned previously, the Dabholm Gut itself is part of the Teesmouth and Cleveland Coast Special Protection Area (SPA) and Ramsar; and Site of Special Scientific Interest (SSSI).

The maximum volume of effluent Biffa will discharge in any 24-hour period is 250m³. This discharges into the Sembcorp drainage system which is permitted to discharge to Dabholm Gut a total daily effluent volume of 49,999m³ in the same 24-hour period. Currently, the discharge from Sembcorp is approximately 20,000m³/day.

At the point of discharge to Dabholm Gut, Biffa's effluent will also likely mix with the freshwater flow in Dabholm Gut, the tidal influx of the Tees Estuary, and effluent from Bran Sands Wastewater Treatment Plant discharge facility all of which are likely to afford additional dilution.

As part of the application, Biffa carried out an assessment of potential impact of pollutants in their aqueous effluents on the receiving waters using the Environment Agency H1 risk assessment guidance for discharges to TRaC (Transitional and coastal) waters. When not all pollutants screened out as insignificant at Test 1 (not all pollutant concentrations were less than their respective EQS values), Biffa were required to carry out modelling of their discharge to determine

the water quality impacts and extent of the mixing zones – as required for any discharge which fails a Test 1 in TRaC H1 and is discharging into a protected European site.

To establish the size of the mixing zones for contaminants in the effluent that required further dilution, Biffa used the “BasicPlumeModel.xls” spreadsheet tool. This model assumes that the spreading is Gaussian, and that the system is in steady state, uniform and unbounded. Given the narrow form of Dabholm Gut, there was a risk the mixing zone (as identified by the gaussian plume) would extend the full width of the Gut and the unbounded assumption would not be met. For this reason, the examination of the mixing zone was carried out as though the discharge was made to the wider Tees estuary at the point Dabholm Gut enters the Tees estuary - this being approximately 1.4km from the actual discharge point within Dabholm Gut.

The Environment Agency sent the conclusions to Natural England on 15th May 2023 with an outcome of ‘no likely significant effect’ for the European sites, and ‘not likely to damage’ for the SSSI. Natural England stated that modelling at the Tees Estuary, was not representative of the potential impacts within Dabholm Gut itself. Dabholm Gut is an important habitat for a range of breeding and non-breeding birds and Natural England stated ‘...*the habitat quality of the Tees for waterbirds is far from uniform, with some areas supporting critical foraging habitats...supporting rich intertidal feeding areas*’ and concluded that the Biffa discharge ‘...*could have significant impact by damaging the benthic community that birds feed on...*’

Biffa has conducted further commissioning trials on the plastics recycling facility (including its optimised effluent treatment plant) without any actual discharge of effluent to Dabholm Gut. Aqueous effluent has been collected and removed from site to a licenced wastewater treatment facility.

The pollutant concentrations in effluent samples obtained during these commissioning trials have been significantly less than those concentrations used by Biffa in the original H1 risk assessment and in the marine modelling.

The Environment Agency has compared these pollutant concentrations with their respective EQS values. This comparison indicates that the optimised effluent treatment plant has the capacity to reduce pollutant concentrations for mercury, cadmium, chromium (VI) and arsenic to values comparable to their EQS. For zinc, copper, nickel and lead, the pollutant concentrations in treated Biffa effluent remain greater than their respective EQS. There is no EQS value for chromium itself.

The Environment Agency has compared pollutant concentrations in the Biffa effluent to both MAC (Maximum Allowable Concentration) – EQS and AA (Annual Average) – EQS (where appropriate) as Biffa have not fully defined the potential mechanism of toxic impact for each of these pollutants (short-term impacts or long-term impacts). We believe the approach we have adopted reflects a worst-case scenario.

The Environment Agency is therefore, on the basis of the information available, unable to conclude that no adverse effect would occur from the proposed permission upon the Teesmouth & Cleveland SPA, Ramsar and SSSI in relation to toxic contamination.

However, the Environment Agency is aware that the receiving waters within Dabholm Gut, will not experience the impact from the Biffa effluent on its own. It will be a relatively small component of the Sembcorp effluent and will mix in Dabholm Gut with the natural flow through that Gut and the discharge from Bran Sands Wastewater Treatment Plant.

The Environment Agency has included a pre-operational condition, PO3, that requires Biffa to assess the pollutant concentrations within its effluent (following further potential upgrade to their effluent treatment plant/process), compare these with their respective EQS values and demonstrate there is no adverse effect due to toxic contamination on the protected features of the habitat site. Based on effluent analyses from commissioning trials and the natural flows through Dabholm Gut, we have carried out calculations that indicate Biffa should be able to demonstrate this and discharge this pre-operational condition.

The Water Framework Directive (WFD) 2000 and Water Environment (Water Framework Directive)(England and Wales) Regulations 2017 environmental objectives include aiming to the achieve 'good' status of water bodies and to prevent deterioration in status. The Environment Agency must exercise its functions including permitting under EPR so as to secure the requirements of the Water Framework Directive including achievement of environmental objectives. Good status means both good ecological, and chemical status. Currently the status of the Tees Estuary, which incorporates Dabholm Gut (in accordance with WFD) is 'moderate' overall as of 2019 and thus the water bodies need to be restored. Various attributes contribute to this status, including an overall 'fail' for chemical status due to Benzo (g-h-i) perylene, mercury and its compounds, polybrominated diphenyl ethers (PBDE), tributyltin compounds, and cypermethrin. Of these, only mercury may reasonably be expected to be present in the Biffa effluent due to incoming waste streams and data from the commissioning trials demonstrate that concentrations of mercury in treated effluent would be less than the mercury EQS value.

Data from the Biffa commissioning trials also indicates that any concentration of polybrominated diphenyl ethers (PBDE) are below their limits of detection in the analytical method used. In addition, these chemicals were largely used as flame-retardants which were removed from use some years ago and would not be expected to be present in the waste streams incoming to the Biffa plastics recycling facility.

Salinity.

The operator submitted data on their effluent composition that indicated chloride concentration will be approximately 600mg/l. As they will discharge up to 250m³/day of effluent, the daily mass release of chloride will be up to 150kg/day.

During consultation, Natural England commented that the salinity of the proposed aqueous discharge needed to be considered further because the discharge flows into Dabholm Gut, which is intertidal and therefore subject to a fluctuating salinity regime (from freshwater to fully saline). Natural England noted that changes to the salinity regime in Dabholm Gut could impact the invertebrate population in the intertidal mud (which is the food supply of SSSI/SPA/Ramsar waterbirds).

Based on the chloride analyses carried out on the effluent by the operator during commissioning, its effluent salinity will be 1.1 PSU (practical salinity units). The salinity of the North Sea within the Tees Estuary, which will inundate Dabholm Gut twice per day tidally, is approximately 34 PSU.

Whilst determining this Biffa application, the Environment Agency also determined another permit application by a different operator, Anglo American Woodsmith Limited, to discharge approximately 1,000m³/day of a hypersaline effluent into Dabholm Gut at the point of discharge from the Bran Sands discharge facility. This is in close proximity to the Sembcorp discharge that will include the Biffa effluent. We were able to utilise data obtained from that other application. Anglo American Woodsmith Limited modelled the impact of the hypersaline discharge with an effective salinity of 5.5 PSU (when mixed with Bran Sands Wastewater Treatment Plant effluent).

The relatively low salinity of the Biffa effluent at 1.1 PSU when compared to the salinity of the North Sea inundation into Dabholm Gut (34 PSU) and the salinity of the hypersaline effluent discharge from Anglo American Woodsmith Limited (5.5 PSU) means that there will be very little additional contribution of salinity from the Biffa discharge and very little change to the overall fresh water/salinity balance within Dabholm Gut due to this new Biffa discharge.

It is not unreasonable to believe that the benthic communities within Dabholm Gut may also have become somewhat tolerant to salinities much greater than that within the Biffa effluent and will be tolerant to changes between fresh water and tidal saline water in Dabholm Gut which will not be impacted greatly by the new Biffa discharge.

We are therefore satisfied that the salinity in the Biffa discharge will not adversely affect the benthic communities within Dabholm Gut.

Natural England have accepted this approach.

The operator proposed that the source of the salinity in their discharge was the incoming waste streams. As part of an improvement programme to reduce pollutant concentrations in effluent discharge, we have included an improvement condition (IC1) requiring the operator to investigate from where pollutants (such as chloride/salinity) are arising and to investigate and propose methods for further reduction of these pollutants in the effluent discharged from the site.

Aluminium and pH.

The proposed Biffa effluent treatment processes utilise coagulants containing aluminium before discharge of treated effluent into Dabholm Gut. Aluminium can be directly toxic to fish and aquatic invertebrates by impacting their ability to regulate ions and salts. It can lead to respiratory problems and deprive species of oxygen ultimately resulting in mortality. In addition, aluminium can alter pH levels in the receiving watercourse. Changes in pH can change the chemistry of the water, resulting in various scenarios which can lead to direct impacts on fish, invertebrates and vegetation, reducing their abundance and distribution. The qualifying features of the Teesmouth & Cleveland Coast Ramsar, SPA and SSSI include birds and invertebrates that rely upon aquatic species as a food source and therefore are likely to be impacted via this mechanism. This is particularly relevant for the wetland foraging areas directly to the northwest of Dabholm Gut, which are in hydrological continuity with the Tees and this Biffa discharge subject to assessment.

Chemical dosing using aluminium and/or iron coagulants is a concern for environmental health. Whilst they are of benefit in removing phosphate from the effluent, their byproducts can enter the watercourse, sometimes causing more harm than the nutrients they remove. Whilst Teesmouth & Cleveland Coast SPA and Ramsar are vulnerable to nitrogen, the Environment Agency agrees that the removal of phosphates is also important.

Due to the presence of fish and invertebrates within the receiving watercourse, which are a necessary requirement for the survival of the qualifying bird species within the Teesmouth & Cleveland Coast SPA and Ramsar and the common seal, a qualifying feature within the SSSI, an aluminium emission limit value for effluent discharged from the facility is required on the permit. Our guidance states that, if chemical dosing is being carried out at a facility, then a site-specific limit based on river needs will be set.

Although there is no BAT-AEL for aluminium defined in the Waste Treatment BAT-conclusions, we have included an emission limit value of 1mg/l aluminium in the permit for the effluent

discharge from the Biffa facility to help ensure aluminium levels are controlled. We believe this emission limit value is sufficient to protect aquatic species present in the receiving waters.

Should the pH of the receiving waters be less than 6, the aluminium emission limit value would be reduced to 0.5mg/l. Data from the Environment Agency from 2019 indicates that the pH of the receiving waters exceeds 6. We have also included in the Biffa permit a pH limit range for their effluent discharge of 6 – 9. This should help ensure that the pH of the receiving waters remains above 6 and prevent the need for a stricter aluminium emission limit value.

Waste Acceptance.

Biffa submitted a list of wastes (EWC codes) that they wished to be permitted to accept in their plastics recycling plant. Of these, we questioned whether four specific wastes were appropriate for acceptance and treatment within the plant:

09 01 08	Photographic film and paper free of silver or silver compounds.
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02.
16 03 06	Organic wastes other than those mentioned in 16 03 05.
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11.

Biffa agreed to remove these proposed wastes from the application, and they are not included as permitted waste types in Table S2.2 of the environmental permit.

Containment.

The operation of the plastics recycling facility and the effluent treatment plant will be carried out within the main process building which itself delivers a degree of containment. Further containment is proposed for each aspect of the operation in the following manner.

1. Waste Water Plant.

The vessels and tanks within this aspect of the operation are:

- Process balance tank	15m ³ .
- Process sludge tank	10m ³ .
- Dissolvable air flotation tank	3m ³ .
- Kasdas unit 1	0.5m ³ .
- Kasdas unit 2	0.5m ³ .
- NaOH IBC	1m ³ .
- Coagulant IBC	1m ³ .
- Polymer IBC	1m ³ .
TOTAL	32m ³ .

Containment of the liquids in these vessels is achieved by their location within a concrete bund of 18.225m³ capacity. Within the bund there is an additional sump delivering a further 0.36m³ capacity. The total capacity is therefore 18.59m³.

This bund is capable of containing 110% of the contents of the largest vessel (16.5m³) and 25% of the total capacity of all the vessels (8m³).

2. Polymers Recycling Plant.

The vessels and tanks within this aspect of the operation are:

- Pre-wash vessel	4.4m ³ .
- Wash reactor vessel 1	3.6m ³ .
- Wash reactor vessel 2	3.6m ³ .
- Wash reactor vessel 3	3.6m ³ .
- Wash reactor vessel 4	3.6m ³ .
- Water recirculation vessel 1	5m ³ .
- Water recirculation vessel 2	5m ³ .
- Flottweg feed buffer tank	3.8m ³ .
- Flottweg	3m ³ .
TOTAL	35.6m ³ .

These vessels are not located within a bund, but containment is delivered by means of surface drainage around the vessels which provides a capacity of 7.11m³ and a supplementary sump of capacity 2.25m³ capacity delivering an overall containment volume of 9.36m³.

This containment area is capable of holding 110% of the contents of the largest vessel (5.5m³) and 25% of the total capacity of all the vessels (8.9m³).

We do not consider that surface drainage delivers the same protection as a separate bund for the containment of leaks or spillages from these vessels as, dependent on the location and size of a leak, liquids may flow too fast and over-top the surface drainage.

We have included an improvement condition, IC3, requiring the operator to review the containment of tanks and vessels in the polymers recycling plant against the requirements of CIRIA C736 (Containment systems for the prevention of pollution. Secondary, tertiary and other measures for industrial and commercial premises). This review must include an assessment of creating a bund around all or some of the vessels within the polymers recycling plant.

Fire Prevention Plan.

The operator has proposed a fire prevention plan that we have assessed to be acceptable. This fire prevention plan is included within the Operating Techniques, Table S1.2.

Pre-Operational Conditions.

We have included the following pre-operational conditions within the permit, all of which must be completed and approved by the Environment Agency before direct discharge of effluent to Dabholm Gut (via Sembcorp) can commence.

PO1 (Compliance with BAT-AELs):

The operator must demonstrate compliance with the BAT-AELs for direct discharges in relation to total suspended solids (TSS) and chemical oxygen demand (COD). Evidence provided at permit application indicated that the operator expected levels of TSS and COD to exceed their BAT-AELs in Waste Treatment BAT-Conclusions, BAT20, Table 6.1. This was the reason why the operator attempted to propose that their discharge should be regarded as an indirect discharge as indirect discharges had no BAT-AELs for TSS or COD.

PO2 (Demonstration of nutrient neutrality).

The operator must demonstrate that the discharge of effluent to Dabholm Gut from their permitted process will either result in zero net nutrient nitrogen addition to the protected habitats site (Teemouth and Cleveland Coast) by reducing existing additions or offsetting existing additions from other contributing sources.

They must outline contingency measures should the agreed reduction or offsetting schemes become unavailable.

They must confirm that the agreed zero net nutrient nitrogen measures have been implemented.

PO3 (Prevention of adverse impact on receiving waters due to toxic contamination).

Based on data from commissioning trials, Biffa has demonstrated that the concentrations of As, Cd, Hg and Cr(VI) in their effluent at point of discharge from the Biffa site have been less than their respective EQS values.

The data from these commissioning trials also indicate that concentrations of Cu, Ni, Pb and Zn in the Biffa effluent are greater than their respective EQS values. Calculations carried out by the Environment Agency indicate that concentrations of Cu, Ni, Pb and Zn in the Biffa effluent could be reduced to less than their respective EQS values at the point of discharge into Dabholm Gut when mixed with the natural flow through Dabholm Gut. PO3 is designed to confirm our conclusions.

In addition, Biffa will be upgrading (or replacing) their effluent treatment plant to deliver further reductions in pollutant concentrations (including those required to discharge, PO1).

Biffa must confirm the concentration of pollutants in their effluent discharge after further upgrade to the effluent treatment plant and compare these against the relevant Environmental Quality Standards to confirm there will be no adverse impact from these pollutants on the receiving environment at those concentrations delivered by effluent treatment plant upgrade.

Based on the outcome of the trial, Biffa must propose emission limit values for Cu, Ni, Pb and Zn. These emission limit values may be less than the upper limit of the BAT-AEL range if that is necessary to protect the receiving environment. Once agreed with the Environment Agency, these emission limit values will apply in the permit.

We have included separate pre-operational conditions for each of these requirements as they are specific individual aspects of the determination. The operator proposed amalgamating these pre-operational conditions into one over-arching condition that addressed all the requirements to be delivered before direct discharge to Dabholm Gut could commence. We have decided that individual pre-operational conditions addressing each aspect individually presents more clarity to the operator, the regulator and the public.

Improvement Conditions.

IC1 (Ongoing improvement in emissions).

The operator has proposed that the most likely sources of the pollutants detected in their effluent discharge are the incoming plastic waste streams. This IC requires the operator to investigate further on the origins of these pollutants.

With these data, the operator must investigate whether there are means of reducing these pollutants in effluent further, possibly by more focus on the incoming waste streams.

Any agreed recommendations must be carried out within the timescales approved by the Environment Agency.

IC2 (Monitoring – frequency and extent).

The operator is proposing further upgrades to, or a replacement of, the existing effluent treatment plant. This will further reduce concentrations of pollutants within the Biffa wastewater.

The Waste Treatment BAT-conclusions allow reduced frequencies of monitoring for pollutants that are deemed 'sufficiently stable' and complete removal of monitoring requirements for pollutants deemed to be not 'relevant'.

The operator must propose a methodology (including timescales and effluent sampling requirements) to the Environment Agency for agreement for a trial to assess the concentration of pollutants in their effluent stream. Using the concentration data from the trial, they may propose:

- That certain pollutants are not 'relevant' and do not require monitoring (in accordance with Waste Treatment BAT-Conclusions BAT3 and BAT20, Table 6-1).
- That certain emission levels are 'sufficiently stable' as outlined in Waste Treatment BAT-Conclusions BAT7 and monitoring frequencies can be reduced.

The trial must be carried out in accordance with the scope and timescales agreed by the Environment Agency.

Any agreed recommendations must be carried out within the timescales approved by the Environment Agency.

IC3 (Containment for effluent treatment plant).

The containment area for the effluent treatment plant is capable of holding 110% of the contents of the largest vessel and 25% of the total capacity of all the vessels. It uses existing surface drainage and does not reflect the best practice guidance in CIRIA C736.

This IC requires the operator to review the containment processes within the effluent treatment plant against the requirements of CIRIA C736 and either confirm that existing containment is adequate or propose further optimisation of the existing containment systems. The option of creating a bund around the entire effluent treatment plant must be considered. Any agreed recommendations must be carried out within the timescales approved by the Environment Agency.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we

The decision was taken in accordance with our guidance on confidentiality.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- Redcar and Cleveland Borough Council.
- Cleveland Fire Brigade.
- Food Standards Agency.
- Health and Safety Executive.
- United Kingdom Health Security Agency (UKHSA).

The comments and our responses are summarised in the [consultation responses](#) section.

Operator

We are satisfied that the applicant (now the operator) 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 our guidance on legal operator for environmental permits.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility' and Appendix 2 of RGN2 'Defining the scope of the installation'.

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided plans which we consider to be satisfactory.

These show the extent of the site of the facility including the discharge points.

Site condition report

The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.

We have accepted the operator's submission of Material Safety Data Sheets (MSDS's) rather than requiring the operator to carry out full analysis of all the components in raw materials such as engine oil, grease, biocide, polymer etc.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have consulted Natural England on our Habitats Regulations and SSSI assessments and taken their comments into account in the permitting decision.

The decision was taken in accordance with our guidance.

See Key Issues section for further information.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator's risk assessment is unsatisfactory and required additional Environment Agency assessment.

The risk of environmental effects on receiving waters from nutrients and other pollutants in the effluent from the Biffa facility has been assessed by the Environment Agency using effluent concentration data from Biffa commissioning trials. Further actions for Biffa are required to provide further information on pollutant concentrations in effluent following commencement of operation of the site. This is in order to allow the operator to determine the improvement from upgrades to their effluent treatment plant, to confirm the conclusions of our assessment of risk and to provide more detailed information on the composition of discharge to establish appropriate emission limit values where these have not yet been set in the permit.

General operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

Operating techniques for emissions that do not screen out as insignificant

Emissions of copper, lead, zinc and nickel cannot be screened out as insignificant as data from the operator's commissioning trials shows that the concentrations of these pollutants in treated effluent have the potential to exceed their respective Environmental Quality Standard values. We have assessed whether the proposed techniques are Best Available Techniques (BAT).

The proposed techniques/ emission levels for emissions that do not screen out as insignificant are in line with the techniques and benchmark levels contained in the technical guidance (Waste Treatment BREF/BAT conclusions) and we consider them to represent appropriate techniques for the facility. The permit conditions will require compliance with relevant BAT reference documents (BREFs) and BAT Conclusions, and Emission Limit Values (ELVs) will deliver compliance with BAT-Associated Emission Levels (AELs).

It is noted that the operator has been unable to screen out these pollutants using either of the standard methods:

- H1 cannot be used as these pollutants fail Test 1 for TrAC waters (their concentrations exceed their environmental quality standards) and further H1 tests cannot be used as the discharge is into a protected conservation site.
- Basic modelling cannot be used due to the nature of the discharge location into Dabholm Gut which is a narrow tidal inlet where the effluent plumes can extend across the entire width of the receiving waters (basically the plumes would reach the sides of Dabholm Gut).

Normally we would set emission limit values based on BAT-AELs at the upper value of the BAT-AEL range given for each pollutant. Where the operator has screened out environmental effect from pollutants As, Cd, Cr(VI) and Hg, we have followed our standard practice in setting emission limit values at the upper value of the BAT-AEL range. Where the operator has been unable to screen out the discharge of pollutants Cu, Ni, Pb and Zn, using the methodologies above, we have not set an emission limit value in the permit, The operator must discharge PO3 and, propose emission limit values for these pollutants that will ensure no environmental effect. To ensure protection of the receiving environment, these emission limit values may be below the upper limit of the BAT-AEL range that we would normally use.

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

Operating techniques for emissions that screen out as insignificant

Emissions of Hg, Cd, As and Cr(VI) have been screened out as insignificant as data from the operator's commissioning trials shows that the concentrations of these pollutants in treated effluent can be reduced to less than their respective Environmental Quality Standard value at point of discharge from the facility, and so we agree that the applicant's proposed techniques are Best Available Techniques (BAT) for the installation in relation to control of these pollutants.

Where the operator has screened out environmental effect from pollutants As, Cd, Cr(VI) and Hg, we have followed our standard practice in setting emission limit values at the upper level of the respective BAT-AEL range.

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

Fire Prevention Plan

We have assessed the fire prevention plan and are satisfied that it meets the measures and objectives set out in the Fire Prevention Plan guidance.

See the Key Issues section of this document for discussion on the Fire Prevention Plan.

The plan has been incorporated into the operating techniques S1.2.

Waste types

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.

We are satisfied that the operator can accept these wastes for the following reasons:

- they are suitable for the proposed activities
- the proposed infrastructure is appropriate; and
- the environmental risk assessment is acceptable.

We have excluded the following wastes for the following reasons:

- 09 01 08; 15 02 03, 16 03 06 and 19 12 12 as they did not comply with the applicant's proposal to accept baled post-consumer HDPE milk and juice bottles for treatment/recycling.

Pre-operational conditions

Based on the information in the application, we consider that we need to include pre-operational conditions.

See the Key Issues section of this document for discussion on the Pre-Operational Conditions.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme.

See the Key Issues section of this document for discussion on the Improvement Conditions.

Emission Limits

Emission Limit Values (ELVs) based on Best Available Techniques (BAT) have been included for the following substances:

- Arsenic, cadmium, chromium, copper, lead, nickel, zinc, chromium (VI) and mercury.
- Phenol index, adsorbable organically bound halogens (AOX), hydrocarbon oil index and free cyanide.
- Total suspended solids (TSS), chemical oxygen demand (COD) and total phosphorous.

Emission limit values based on Environment Agency best practice guidance for use of water treatment chemicals have been included for the following substances:

- Aluminium, pH.

Emission limit values based on the treatment capacity of the effluent treatment plant (and used to calculate environment effect) have been included for the following substances:

- Maximum daily discharge volume and maximum rate of discharge.

See the 'Operating techniques for emissions that do not screen out as insignificant' section of this document for further information on the setting of emission limit values in line with PO3.

It is considered that the limits will prevent significant deterioration of receiving waters.

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 included in order to prevent deterioration in the quality of the receiving waters in the Tees Estuary.

We made these decisions in accordance with the Waste Treatment BREF BAT-conclusions.

Those parameters for which there is monitoring required, but no emission limit values are:

- Benzene, toluene, ethylbenzene, xylene (BTEX), Perfluorooctanoic acid (PFOA), Perfluorooctanesulphonic acid (PFAS).

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 Waste Treatment BREF BAT-conclusions.

Management System

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

Technical Competence

Technical competence is required for activities permitted.

The operator is a member of the CIWM/WAMITAB scheme.

We are satisfied that the operator is technically competent.

Previous performance

We have assessed operator competence. There is no known reason to consider the applicant will not comply with the permit conditions.

We have checked our systems to ensure that all relevant convictions have been declared.

Relevant convictions were found and declared in the application.

Financial competence

There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5

that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

7.2.3 Legislative and Regulatory Reform Act 2006

In accordance with section 21 of this Act, when making this decision we have had regard to the need to be transparent, accountable, proportionate and consistent, and the need to target action where it is needed.

In accordance with section 22 of the Act we have had regard to the Regulators' Code; in particular the need to base our decision on environmental risk, and to support the applicant to comply and grow, so that burdens have only been imposed where they are necessary and proportionate.

Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section:

Response received from: UKHSA.

Brief summary of issues raised: Based on the information contained in the application submitted to them, they had no significant concerns regarding the risk to the health of the local population from the installation.

Summary of actions taken: No further actions required.

Response received from: HSE.

Brief summary of issues raised: HSE had no comments to make on the application.

Summary of actions taken: No further actions required.

Response received from: Redcar and Cleveland Borough Council Environmental Protection Team.

Brief summary of issues raised: Consultee will not be making any comments on the application.

Summary of actions taken: No further actions required.