

OGN 200 Form 1A

Record of a Habitats Regulations Assessment

Plan or project name, brief description or application reference number	Normal Permit Variation Application – Newport Data Centre Application reference : PAN-026559 Permit number : EPR/BB3599CW
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HRA iteration/version	N/A
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1. Plan or Project Details

Information about the plan or project		
1	Date application received	Duly made 25/10/2024
2	Applicant details	Vantage Data Centers UK Ltd
3	NRW team responsible for carrying out, or requiring to be carried out, the plan or project, and name of lead officer	N/A
4	Activity/ies proposed	The Operator, Vantage Data Centers (UK) Limited, has applied for a normal variation to their existing permit which currently allows them to operate 202 back-up generators which

will provide power in the event of a power supply failure from the National Grid at Newport Data Centre (CWL11 and CWL12) in Newport, South Wales (permit number EPR/BB3599CW/V003). The permit relates to only this combustion activity, not the Data Centre operation itself.

The only planned operation of these engines will be for testing/maintenance. The testing regime is not proposed to be changed as part of this variation and will remain as follows:

- Quarterly individual engine testing (2 x 2 hour per year and 2 x 15 min per year)
- “Black Building testing” which will be where engines are tested in their cells (groups of 4-9 engines) twice per year (15 mins)

Other than this, apart from very minimal additional testing should there be any faults unplanned maintenance (which will be short duration) the engines will remain off, and retained for emergency use only. Emergency use is considered to be very unlikely and there are extensive measures in place (in line with Best Available Techniques for the sector) to minimise the likelihood and duration of any national grid power failure (e.g. dual HV connection direct to “super grid” each of which is capable of powering the entire site, extensive inventory of electrical spares on site, etc – as further detailed in previous permit applications).

Should emergency operation be required, generators would operate in emergency mode. Initially all 202 engines would run, and after 10 minutes the number of engines would reduce to the actual site load (there are redundant engines per cell, and the actual power requirement may also be below the maximum rating). This would be a significant event for the site, and for the National Grid network, and would be immediately reported to NRW and managed as necessary as an incident.

Of the 202 generators permitted, the Operator has installed 123. Due to generator design developments, the Operator has proposed to change the permitted specifications of the remaining generators to be installed and reduce the total number of generators from 202 to 194.

The current permit includes a 75% load constraint for the engines added under the previous variation (V003) which includes the CWL11 expansion and entire CWL12. This application is also to remove the load constraint for 41 of the installed engines and the 71 new engines to be installed. It is proposed these will have a similar aggregated thermal input to that already permitted at 519 MW, although the current permitted engine arrangement has an

		<p>actual total thermal input under this permitted limit of 415.3 MW due to loading constraints. Therefore the change will mean an increase of 104 MWth input.</p> <p>The new engines will normally run on Hydrotreated Vegetable Oil (HVO), but low sulphur conventional diesel may be used as a secondary backup fuel. They will be fitted with Selective Catalytic Reduction (SCR) for NOx emissions abatement. As per the existing permit, each generator will operate for less than 500 hours per year and will be considered Limited Operating Hours Medium Combustion Plant (MCP) and exempt from the emission limit values within Schedule 25A of EPR.</p> <p>The emissions in the exhaust gas will comprise of:</p> <ul style="list-style-type: none"> • Oxides of nitrogen (NO_x as NO₂) • Particulate matter (PM) • Carbon Monoxide (CO) • Sulphur Dioxide (SO₂) • Carbon Dioxide (CO₂) <p>The operator also operates another data centre, "CWL13", located to the east of the site which is permitted for 60 emergency generators with a thermal input of 179 MWth (permit number EPR/CB3895HY). This site will be assessed in-combination but reference is also made to it within the alone assessment.</p>
5	Relevant legislation or statutory basis	<p>Environmental Permitting (England and Wales) Regulations 2016 (EPR)</p> <p>The Industrial Emissions Directive (IED)</p> <p>The Medium Combustion Plant Directive (MCPD)</p>
6	Location	Newport Data Centre, Imperial Park, Celtic Way, Marshfield, Newport, NP10 8BE.
7	Plan or project documents, including any application documents	<p>See documents titled PAN-026558 dated 05/08/2024 and 25/10/2024:</p> <ul style="list-style-type: none"> - In the permits DMS file: EPR-BB3599CW (internal) - On the public register: Public register - Customer Portal (external) <p>Key to this assessment is "PAN-026558 – Vantage 0 Quality Impact Assessment v2 FOR ISSUE" dated 25/10/2024.</p>
8	Environmental Statement (ES)	N/A

9	Pre-application correspondence	N/A
10	NRW team responsible for preparing this HRA report, and lead officer	Jennifer McGuire Lead Specialist Officer, Installations & RSR Permitting Team
11	Team or person responsible for approving the plan or project (competent authority role)	Blaenau Gwent, Caerphilly & Newport Environment Team

2. Determining the need for a Habitats Regulations Assessment

2.1 Is there any possibility that the plan or project could negatively affect any European sites?	YES
2.2 Is the whole of the plan or project directly and only connected with or necessary to the management of one or more European sites, for the purposes of conserving the habitats or species for which the European site(s) is/are designated?	NO
2.3 Is there a possibility that the plan or project could affect any other feature of the European site(s) concerned, or of another European site, in a way that would undermine that feature's conservation objectives?	

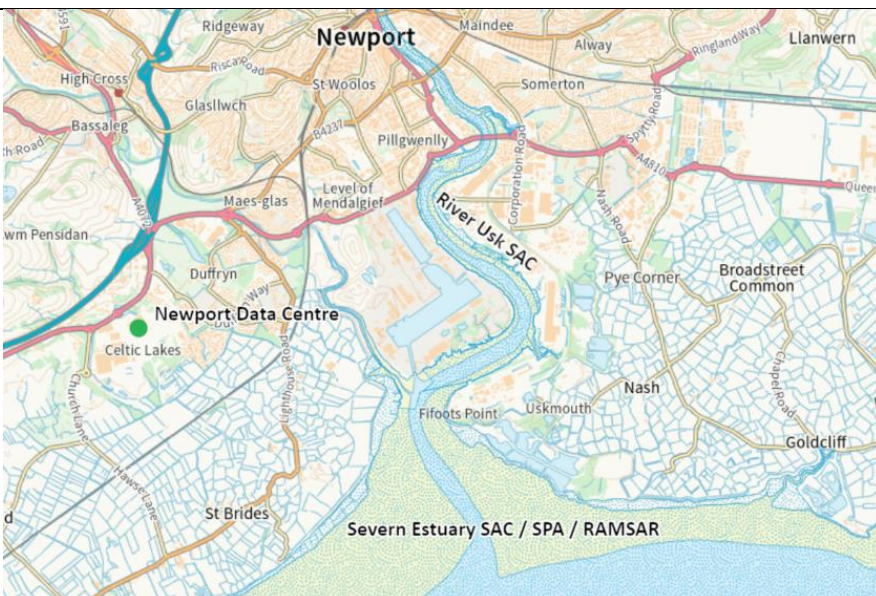
3. Considering the likelihood of a significant effect (LSE)

3.1 Renewal of a project authorisation on the same or more restrictive terms as an extant authorisation

Is this a renewal of an extant authorisation which complies with NRW approved criteria for ruling out significant effects of renewals (see Part 2 of OGN200) without conducting a project-specific LSE test?	NO
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3.2 Likelihood of significant effects (LSE) test

3.2.1 Which European sites might be affected by the plan or project?

<p>(a) Based on the plan or project specification, or information provided in the application, it is considered that these European sites have features which could be negatively affected by the plan or project</p>	<ul style="list-style-type: none">• River USK SAC• Severn Estuary SAC• Severn Estuary SPA• Severn Estuary Ramsar	 <p>The map shows the Newport area in South Wales, highlighting several European sites. The River Usk SAC is shown as a blue area following the river's course through the city. The Severn Estuary SAC/SPA/Ramsar is shown as a green area along the coast. Other labeled locations include Newport, Newport Data Centre, Celtic Lakes, and various residential areas like High Cross, Bassaleg, and St Woolos. Roads such as the A4012 and A4810 are also visible.</p>
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(b) The potential for the plan or project to negatively affect these European sites was also initially considered, but can be ruled out without further consideration	Severn Estuary SAC/ SPA / Ramsar (England) – the boundary of the English designation is >10km from the facility, so it is considered that consultation with NRW protected sites advisors only (and not Natural England) is appropriate.
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3.2.2 Screening for likelihood of significant effect

TABLE 3.2.2 Screening assessment
European site name: Severn Estuary SAC
<p>The notified features for this site (as detailed in The Severn Estuary Core Management Plan dated June 2009) are listed below:</p> <ol style="list-style-type: none"> 1. Estuaries 2. Subtidal sandbanks 3. Intertidal mudflats and sandflats 4. Atlantic salt meadows 5. Reefs 6. River lamprey 7. Sea lamprey 8. Twaite shad <p>Estuaries is an over-arching feature which also includes all other listed features (which are also features in their own right). In addition, hard substrate habitats including eel grass beds, the estuary-wide assemblage of fish species and the assemblage of waterfowl species (for which the Ramsar Site and SPA are specifically designated – see below) are identified as notable estuarine assemblages which are an intrinsic part of the estuary ecosystem – these are therefore also covered by the “estuaries” feature.</p> <p>Conservation Objectives for the site are listed in the Core Management Plan linked above.</p> <p>The screening assessment below will consider the likelihood of significant effect from the changes to the permit proposed by the operator as detailed in section 1 of this form and any relevant conservation objectives.</p>

Potential impact pathway	Screening conclusion – ‘SCREEN OUT’, ‘SCREEN IN’ or ‘IN COMB’
<p><u>Disturbance, Habitat Loss or Physical Damage</u></p> <p>Conservation objectives for the estuaries features (for which all other features are sub-features of) include objectives relating to its total extent and the physical form – see Core Management Plans for full list of objectives.</p> <p>The installation is located approximately 2.8km from the site and hence there is no likelihood of significant effects to any of the listed features from disturbance, habitat loss or physical damage which are typically associated with direct activity within a protected site boundary.</p>	<p>SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.</p>
<p><u>Changes to the water column</u></p> <p>There are no new/changes to emissions to water proposed as part of this permit variation. The only emissions to water will be uncontaminated surface water run-off which is already permitted. All potentially polluting hazardous substances (including fuel and AdBlue) will be suitably stored and contained to effectively minimise the risk of accidental release to water. Therefore there is no likelihood of significant effect to any of the listed features as a result of changes to the water column (flow regimes, thermal regimes, siltation etc).</p>	<p>SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.</p>
<p><u>Changes to air quality – Sulphur Dioxide (SO₂)</u></p> <p>The engine emissions contain/will contain SO₂. Emissions of this pollutant may change as a result of the proposed variation.</p> <p>As noted above, the sites Estuaries feature is an over-arching feature for which other features are sub-features of. This estuarine & intertidal habitat is also a supporting habitat for the sites protected species. A relevant conservation objective for this feature is:</p> <p><i>“ix. Airborne nutrient and contaminant loads are below levels which would pose a risk to the ecological objectives described above”</i></p>	<p>SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.</p>

<p>The Air Pollution Information System (APIS) website¹ is used as the source of the environmental standards (“critical levels” and “critical loads”) for use in assessing the predicted impact of industrial pollutants on vegetation and ecosystems. The Core Management Plan explicitly specifies that concentrations of SO₂ should not exceed the maximum critical load for the site.</p> <p>The applicant has considered the impact of SO₂ emissions in their application. They have screened out SO₂ emissions from requiring detailed assessment (modelling) on the basis that ultra-low sulphur diesel will be used (or HVO which is lower in sulphur again). They have instead used the modelled results for NO_x and the sulphur content of the fuel to calculate / demonstrate low sulphur emissions (e.g. 0.0566 µg/m³ for a single engine).</p> <p>We are in agreement of this approach in this instance when also considering the low operational hours of the engines (both planned and emergency operation). We do not anticipate there to be a likelihood of significant effect on the site from SO₂ emissions as a result of the variation. This is the case for both the testing and emergency operation scenarios.</p>	
<p><u>Changes to air quality – Ammonia (NH₃)</u></p> <p>On the ‘new’ engines, SCR abatement is proposed (which will use AdBlue) which may lead to emissions of Ammonia (NH₃) should “ammonia slip” occur</p> <p>As discussed, a relevant conservation objective for the site’s Estuaries feature is:</p> <p><i>“ix. Airborne nutrient and contaminant loads are below levels which would pose a risk to the ecological objectives described above”</i></p> <p>The Core Management Plan explicitly specifies that concentrations of NH₃ should not exceed the maximum critical load for the site.</p> <p>NH₃ has been screened out as requiring detailed assessment (modelling) by the applicant. This has been justified by the use of secondary abatement in the form of an “Ammonia Slip Catalyst” which will capture any un-used ammonia from the SCR abatement process. A statement from the SCR supplier (IMS Eco SCR systems) has been provided to confirm this and they have detailed the monitoring systems in place to identify any excess ammonia should a failure in the abatement occur. We are in agreement of this approach in this instance and conclude that adverse effects on site</p>	<p>SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.</p>

¹ www.apis.ac.uk

integrity as a result of NH₃ emissions (toxic contamination, nutrient enrichment and acidification) from this proposal (for both emergency and testing scenarios) can be ruled out. We do not anticipate there to be a likelihood of significant effect on the site from NH₃ emissions as a result of the variation. This is the case for both the testing and emergency operation scenarios.

Changes to air quality – Oxides of Nitrogen (NO_x) (mixture of NO and NO₂)

The engine emissions contain/will contain oxides of NO_x which is a principle pollutant of concern for this activity.

As discussed, a relevant conservation objective for the site's Estuaries feature is:

“ix. Airborne nutrient and contaminant loads are below levels which would pose a risk to the ecological objectives described above”

The Core Management Plan explicitly specifies that concentrations of NO_x should not exceed the maximum critical load for the site.

Changes to NO_x emissions as a result of the variation could impact the site via the following pathways:

- Toxic contamination (from increased concentrations of airborne NO_x)
- Nutrient enrichment (from NO_x deposition)
- Acidification (acid deposition from Nitrogen (N) and Sulphur (S))

The applicant has provided a detailed assessment of NO_x impacts, using detailed modelling to determine the significance of the NO_x emissions and deposition against the relevant environmental standards in line with relevant guidance². Impacts of testing and emergency usage have been assessed.

Please refer to the air quality modelling report for a full description of modelling approach³. We are in agreement with this approach. The assumptions underpinning the model 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 Natural Resources Wales modelling specialists to

Testing

‘IN COMB’ - a significant effect on the feature when considered alone can be ruled out without further assessment, but the potential for a significant effect on the feature from this plan or project in combination with the effects of other plans or projects, needs to be considered.

Emergency operation – 1 hr

‘IN COMB’ - a significant effect on the feature when considered alone can be ruled out without further assessment, but the potential for a significant effect on the feature from this plan or project in combination with the effects of other plans or projects, needs to be considered.

Emergency operation – 72 hr

SCREEN IN - there is a potential impact from the plan or project on the sites features and a significant effect cannot be ruled out without further assessment

² [Environmental permitting: air dispersion modelling reports - GOV.UK](#)

³ [PAN-026558 - Vantage Newport Air Quality Impact Assessment v2 FOR ISSUE.pdf](#)

establish the robustness of the applicant's air impact assessment. These checks indicated that we are in general agreement with the modelling results and as such, they have been used to support this HRA assessment.

The air quality modelled has calculated process contributions (PC) and predicted environmental concentrations (PEC) at locations within the Severn Estuary SAC and compared them against the relevant environmental standard to predict if impacts are to be significant using the accepted guidance on determining significance of air quality modelling results². For screening of likely significant effects, impacts can generally be screened out where they are under 10% for short term impacts and 1% for long term impacts (please refer to guidance for further information).

Note that where applicant has provided results for CWL11 and CWL12 separately, results have been added together by NRW to demonstrate impact from the whole site. Results discussed represent maximum point of impact within the site's boundary.

1. Testing

1.1. Toxic contamination from airborne NO_x – short term assessment

Quarterly individual engine testing

Emissions of NO_x have been assessed against a short term (daily) critical level of 200 micrograms per cubic metre (µg/m³). Whilst the standard critical level for NO_x for protected sites is usually 75 µg/m³, 200 µg/m³ has been used where ozone is below the AOT critical level and sulphur dioxide is below the critical level of 10 µg/m³. This approach is in line with guidance² and NRW are in agreement with the critical level used.

The maximum short term Process Contribution (PC) (0.311 µg/m³)⁴ was predicted to be less than 10% of the critical level. Therefore, in accordance with the relevant guidance, impacts can be considered insignificant.

Black building tests

Emissions of NO_x were assessed against short term critical level of 200 µg/m³. The maximum short term PC (0.423 µg/m³)⁴ was predicted to be less than 10% of the critical

⁴ These results also include CWL13 as this was all that was provided by the applicant. We consider use of these figures suitable for the purpose of screening for likelihood of significant effect in this instance.

level. Therefore, in accordance with the relevant guidance, impacts of air pollution from NO_x can be considered insignificant.

1.2. Toxic contamination from airborne NO_x – long term assessment

Long term assessment (annual) of testing impacts included both planned tests (quarterly and black building tests).

Emissions of NO_x were assessed against the long term critical level of 30 µg/m³. As discussed, NRW are in agreement with the critical level used.

The maximum long term PC (0.0002424 µg/m³) was predicted to be less than 1% of the critical level. Therefore, in accordance with the relevant guidance, long term impacts can be considered insignificant.

1.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 20 N kg/ha/yr. However APIS⁵ lists a critical load range of 10-20 N kg/ha/yr for the site's most sensitive feature (estuaries). For assessment, it is recommended the minimum value of the critical load range is used, which in this case would be 10 N kg/ha/hr.

The applicants assessment reported that maximum PC (0.0001699 N kg/ha/yr) was predicted to be less than 1% of a critical load of 20 N kg/ha/yr. Assessment of the predicted PC against a critical load of 10 N kg/ha/yr results in a PC which is still under 1%. Therefore, in accordance with the relevant guidance impacts can be considered insignificant.

1.4. Acidification from acid deposition

For the purposes of screening the predicted impact of acid deposition, it is necessary to using the APIS Critical Load Function Tool to see if there is a risk of the minimum critical load range for acidity being exceeded.

⁵ [Ammonia | Air Pollution Information System](#)

At the time of this assessment, there were no acidity critical loads listed on APIS for the Severn Estuary SAC although the applicant has used the following critical loads, stating that these were what was listed on APIS (no feature specified) when they carried out their assessment in May 2024:

MinCLminN: 0.856 keq/ha/yr, MinCLMaxS: 4 keq/ha/yr and MinCLMaxN: 4.856 keq/ha/yr.

In most cases where there are no critical loads listed for acidity, acidity impacts can be screened out on the basis of an assumption of no sensitivity or lack of known sensitivity. Therefore in this instance and in accordance with technical advice, we consider the critical load values used acceptable (and precautionary) for the purpose of screening.

Maximum predicted combined N and S deposition PC has been calculated to be 0.0001699 Keq /ha/yr.

The APIS website gives the following background concentrations for the SAC at the point nearest the installation: N deposition 0.61 keq/ha/yr and S deposition 0.17 keq/ha/yr (mid year 2021 data). This is lower than the background concentrations used in the applicants assessment: N deposition 1.24 N keq/ha/yr and S deposition 0.144 S keq/ha/yr.

The background concentrations of N and S and predicted PC have been inputted into the Critical Load Function Tool on APIS to check whether the PC falls within the “envelope of protection” where the critical loads are not exceeded. The Critical Load Function Tool shows that the predicted PC falls far below the minimum critical load range and no exceedance of the critical load will occur. This was the case when using both the applicants and APIS background concentrations. PC has been calculated to be less than 1% of the critical load and therefore, in accordance with the relevant guidance impacts can be considered insignificant.

2. Emergency Operation – 1 hour

2.1. Toxic contamination from NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. As discussed, this approach is in line with guidance and NRW are in agreement with the critical level used.

The maximum short term PC (17.15 µg/m³) was predicted to be less than 10% . Therefore, in accordance with the relevant guidance, impacts can be considered insignificant.

2.2. Toxic contamination from NO_x – long term assessment

Emissions of NO_x were assessed against the long term critical level of 30 µg/m³. As discussed, NRW are in agreement with the critical level used.

The maximum long term PC (0.0028 µg/m³) was predicted to be less than 1% of the critical level. Therefore, in accordance with the relevant guidance, long term impacts can be considered insignificant.

2.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 20 N kg/ha/yr. However, as discussed, for this site we consider a critical load of 10 N kg/ha/yr to be more appropriate for assessment.

The applicants assessment reported that maximum PC (0.001962 N kg/ha/yr) was predicted to be less than 1% of a critical load of 20 N kg/ha/yr. Assessment of the predicted PC against a critical load of 10 N kg/ha/yr results in a PC contribution which is still under 1%. Therefore, in accordance with the relevant guidance impacts can be considered insignificant.

2.4. Acidification from acid deposition

The applicant assessed acidification against a minimum critical load of MinCLminN: 0.856 keq/ha/yr, MinCLMaxS: 4 keq/ha/yr and MinCLMaxN: 4.856 keq/ha/yr which as discussed above, we agree with in this instance.

Maximum predicted combined N and S deposition PC has been calculated to be 0.004090 Keq/ha/yr.

The background concentrations of N and S (refer to discussion around background concentrations above for the testing scenario) and predicted PC have been inputted into the Critical Load Function Tool on APIS to check whether the Predicted PC falls within the

“envelope of protection” where the critical loads are not exceeded. The Critical Load Function Tool has determined that the predicted PC falls far below the minimum critical load range and no exceedance of the critical load will occur. This was the case when using both the applicants and APIS background concentrations. PC was calculated to be less than 1% of the critical load (less than 0.01%) and therefore, in accordance with the relevant guidance impacts can be considered insignificant.

3. Emergency operation – 72 hour

3.1. Toxic contamination from NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. As discussed, this approach is line with guidance¹ and NRW are in agreement with the critical level used.

The maximum short term PC (412 µg/m³) was predicted to be more than 10% (206%). Therefore, in accordance with the relevant guidance, impacts **cannot be screened out as insignificant and appropriate assessment is required.**

3.2. Toxic contamination from NO_x – long term assessment

Emissions of NO_x were assessed against the long term critical level of 30 µg/m³. As discussed, NRW are in agreement with the critical level used.⁰

The maximum long term PC (0.2017 µg/m³) was predicted to be less than 1% of the critical level. Therefore, in accordance with the relevant guidance, long term impacts of air pollution from NO_x can be considered insignificant.

3.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 20 N kg/ha/yr. However, as discussed, for this site we consider a critical load of 10 N kg/ha/yr to be more appropriate for assessment.

The applicants assessment reported that maximum PC (0.1411 N kg/ha/yr) was predicted to be more than 1% of a critical load of 20 N kg/ha/yr. It then follows that assessment of the predicted PC against a critical load of 10 N kg/ha/yr results in a PC contribution which is also over 1% (1.41%). Therefore, in accordance with the relevant guidance **impacts cannot be screened out as insignificant and appropriate assessment is required.**

3.4. Acidification from acid deposition

The applicant assessed acidification against a minimum critical load of MinCLminN: 0.856 keq/ha/yr, MinCLMaxS: 4 keq/ha/yr and MinCLMaxN: 4.856 keq/ha/yr which as discussed above, we agree with in this instance.

Maximum predicted combined N and S deposition PC has been calculated to be 0.1411 Keq/ha/yr.

The background concentrations of N and S and predicted PC have been inputted into the Critical Load Function Tool on APIS to check whether the PC falls within the "envelope of protection" where the critical loads are not exceeded. The Critical Load Function Tool has determined that the predicted PC falls far below the minimum critical load range and no exceedance of the CL function will occur. This was the case when using both the applicants and APIS background concentrations.

PC was calculated to be less than 1% of the critical load and therefore, in accordance with the relevant guidance impacts can be considered insignificant.

Smothering

The engines will emit particulate matter. While particulate matter does not have a Critical Level or Load set for the protection of vegetation and ecosystems, it still has the potential to contribute to smothering of vegetation from airborne fallout. PM₁₀ & PM_{2.5} Particulate Matter are deposited slowly but may travel 1000m or more. However, concentrations decrease rapidly on moving away from the source, due to dispersion and dilution. At the closest point of the SAC is located 2.8km from the site, we consider that in this case there is no realistic likelihood of impact.

SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.

European site name: Severn Estuary SPA and Severn Estuary Ramsar

Likelihood of significant effect will be assessed for both these sites together as the site boundaries are the same.

The notified features for the Severn Estuary SPA site (as detailed in [The Severn Estuary Core Management Plan](#) dated June 2009) are listed below:

1. Berwick swan
2. European white-fronted goose
3. Dunlin
4. Redshank
5. Shelduck
6. Gadwall
7. Internationally important assemblage of waterfowl

The notified features for the Severn Estuary Ramsar site (also detailed in the Severn Estuary Core Management Plan dated June 2009) are:

1. Estuaries
2. Assemblage of migratory fish species (includes Sea Lamprey, River Lamprey, Twaite Shad, Allis Shad, Salmon, Sea Trout and Eel)
3. Bewick Swan
4. European white-fronted goose
5. Dunlin
6. Redshank
7. Shelduck
8. Gadwall
9. Internationally important assemblage of waterfowl.

For all these listed species, the estuaries feature and it's sub-features (notably intertidal mudflats and sandflats, Atlantic salt meadows and hard substrate habitats) provides an important supporting habitat.

Conservation Objectives for the site are listed in the Core Management Plan linked above.

The screening assessment below will consider the likelihood of significant effect from the changes to the permit proposed by the operator as detailed in section 1 of this form and any relevant conservation objectives.

Potential impact pathway	Screening conclusion – ‘SCREEN OUT’, ‘SCREEN IN’ or ‘IN COMB’
<u>Disturbance, Habitat Loss or Physical Damage</u> See comments for Severn Estuary SAC above.	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect

	can be ruled out without further assessment.
<p><u>Changes to the water column</u></p> <p>See comments for Severn Estuary SAC above.</p>	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.
<p><u>Changes to air quality – Sulphur Dioxide (SO₂)</u></p> <p>See comments for Severn Estuary SAC above.</p>	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.
<p><u>Changes to air quality – Ammonia (NH₃)</u></p> <p>See comments for Severn Estuary SAC above.</p>	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.
<p><u>Changes to air quality – Oxides of Nitrogen (NO_x)</u></p> <p>Refer to comments for Severn Estuary SAC for information on how impacts from NO_x emissions have been assessed. Results for the Severn Estuary SPA / Ramsar will be discussed below.</p> <p>It is noted that some of the species listed for the site are not directly sensitive to NO_x emissions. However the Core Management Plan is clear in that the estuaries feature (and it's sub features) of the SAC are an important supporting habitat to these features and so assessment of impact within the SPA / Ramsar boundary (where the estuaries feature is also found) is required.</p> <p>1. Testing</p> <p>1.1. Toxic contamination from airborne NO_x – short term assessment</p> <p><u>Quarterly tests</u></p>	<p>Testing</p> <p>'IN COMB' - a significant effect on the feature when considered alone can be ruled out without further assessment, but the potential for a significant effect on the feature from this plan or project in combination with the effects of other plans or projects, needs to be considered.</p> <p>Emergency operation – 1 hr</p> <p>SCREEN IN - there is a potential impact from the plan or project on the sites features and a significant effect</p>

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. As discussed, we are in agreement with the critical level used.

The maximum short term PC (0.453 µg/m³)⁴ was predicted to be less than 10% of the critical level. Therefore, in accordance with the relevant guidance, impacts can be considered insignificant.

Black building tests

Emissions of NO_x were assessed against short term critical level of 200 µg/m³. The maximum short term PC (0.528 µg/m³)⁴ was predicted to be less than 10% of the critical level. Therefore, in accordance with the relevant guidance, impacts can be considered insignificant.

1.2. Toxic contamination from airborne NO_x – long term assessment

Emissions of NO_x were assessed against the long term critical level of 30 µg/m³. As discussed, NRW are in agreement with the critical level used.

The maximum long term PC (0.000514 µg/m³) was predicted to be less than 1% of the critical level. Therefore, in accordance with the relevant guidance, impacts can be considered insignificant.

1.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 10 N kg/ha/yr. APIS³ lists a critical load range of 10-20 N kg/ha/yr for the site's most sensitive feature (e.g. Estuaries) and so this critical load is considered appropriate for assessment where the minimum value of the range has been used.

The maximum PC (0.0003598 N kg/ha/yr) was predicted to be less than 1% of the critical load. Therefore, in accordance with the relevant guidance impacts can be considered insignificant.

1.4. Acidification from acid deposition

The applicant assessed acidification against a minimum critical load of MinCLminN: 0.856 keq/ha/yr, MinCLMaxS: 4 keq/ha/yr and MinCLMaxN: 4.856 keq/ha/yr which for reasons discussed above for Severn Estuary SAC, we agree with in this instance.

The applicants assessment predicted maximum predicted combined N and S deposition PC to be 0.0003598 Keq/ha/yr.

cannot be ruled out without further assessment

Emergency operation – 72 hr SCREEN IN - there is a potential impact from the plan or project on the sites features and a significant effect cannot be ruled out without further assessment

The background concentrations of N and S and predicted PC have been inputted into the Critical Load Function Tool on APIS to check whether the PC falls within the “envelope of protection” where the critical loads are not exceeded. The Critical Load Function Tool has determined that the predicted PC falls far below the minimum critical load range and no exceedance of the critical loads function will occur. This was the case when using both the applicants and APIS background concentrations. PC was calculated to be less than 1% of the critical load and therefore, in accordance with the relevant guidance impacts can be considered insignificant.

2. Emergency Operation – 1 hour

2.1. Toxic contamination from NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200(µg/m³). As discussed, NRW are in agreement with the critical level used.

The maximum short term PC (25.14 µg/m³) was predicted to be more than 10% (13%) Therefore, in accordance with the relevant guidance, **impacts cannot be screened out as insignificant and appropriate assessment is required.**

2.2. Toxic contamination from NO_x – long term assessment

Emissions of NO_x were assessed against the long term critical level of 30 µg/m³.

The maximum long term PC (0.006128 µg/m³) was predicted to be less than 1% of the critical level. Therefore, in accordance with the relevant guidance, long term impacts can be considered insignificant.

2.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 10 N kg/ha/yr. As discussed, NRW are in agreement with the critical load used.

The applicants assessment reported that maximum PC (0.004283 N kg/ha/yr) was predicted to be less than 1% of the critical load. Therefore, in accordance with the relevant guidance impacts can be considered insignificant.

2.4. Acidification from acid deposition

The applicant assessed acidification against a minimum critical load of MinCLminN: 0.856 keq/ha/yr, MinCLMaxS: 4 keq/ha/yr and MinCLMaxN: 4.856 keq/ha/yr which for reasons discussed, we agree with in this instance.

The applicants assessment predicted maximum predicted combined N and S deposition PC to be 0.004283 Keq/ha/yr.

The background concentrations of N and S and predicted PC have been inputted into the Critical Load Function Tool on APIS to check whether the PC falls within the “envelope of protection” where the critical loads are not exceeded. The Critical Load Function Tool has determined that the predicted PC falls far below the minimum critical load range and no exceedance of the critical load function will occur. This was the case when using both the applicants and APIS background concentrations. PC was calculated to be less than 1% of the critical load (less than 0.01%) and therefore, in accordance with the relevant guidance impacts can be considered insignificant.

3. Emergency operation – 72 hour

3.1. Toxic contamination from NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. As discussed, NRW are in agreement with the critical level used.

The maximum short term PC (603.9 µg/m³) was predicted to be more than 10% of the critical load (302%). Therefore, in accordance with the relevant guidance, **impacts cannot be screened out as insignificant.**

3.2. Toxic contamination from NO_x – long term assessment

Emissions of NO_x were assessed against the long term critical level of 30 µg/m³. As discussed, NRW are in agreement with the critical level used.

The maximum long term PC (0.4414 µg/m³) was predicted to be more than 1% of the critical level (1.5%). Therefore, in accordance with the relevant guidance, **impacts cannot be screened out as insignificant and appropriate assessment is required.**

3.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 10 N kg/ha/yr. As discussed, NRW are in agreement with the critical load used.

The applicants assessment reported that maximum PC (0.3086 N kg/ha/yr) was predicted to be more than 1% of the critical load (3.1%). Therefore, in accordance with the relevant guidance, **impacts cannot be screened out as insignificant and appropriate assessment is required.**

3.4. Acidification from acid deposition

As discussed above, for the purposes of screening the predicted impact of acid deposition, it is necessary to using the APIS Critical Load Function Tool to see if there is a risk of the minimum critical load range for acidity being exceeded.

The applicant assessed acidification against a minimum critical load of MinCLminN: 0.856 keq/ha/yr, MinCLMaxS: 4 keq/ha/yr and MinCLMaxN: 4.856 keq/ha/yr which for reasons discussed above for Severn Estuary SAC, we agree with in this instance.

The applicants assessment predicted maximum predicted combined N and S deposition PC to be 0.3086 Keq/ha/yr.

The background concentrations of N and S and predicted PC were then inputted into the Critical Load Function Tool on APIS to check whether the Predicted PC falls within the “envelope of protection” where the critical loads are not exceeded. The Critical Load Function Tool determined that PC will represent 6.4% of the minimum critical load function. However there is no anticipated exceedance of the minimum critical load function when considering the PC plus the background concentrations i.e. PEC (Predicted Environmental Contributions) which was calculated by the tool to be 22.4%. Therefore in accordance with guidance (where PEC can be considered at screening stage for acidity impacts), impacts can be screeded out as insignificant as the contribution will be within the “safe envelope”.

Smothering

See comments for Severn Estuary SAC above.

SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.

European site name: River Usk SAC	
<p>The notified features for the River Usk SAC site (as detailed in River Usk SAC Core Management Plan dated 2022) are listed below:</p> <ul style="list-style-type: none"> • Sea lamprey • Brook lamprey • River lamprey • Twait shad • Allis shad • Atlantic Salmon • Bullhead • European otter • Watercourses of plain to montane levels <p>Conservation Objectives for the site are listed in the Core Management Plan linked above.</p> <p>The screening assessment below will consider the likelihood of significant effect from the changes to the permit proposed by the operator as detailed in section 1 of this form and any relevant conservation objectives.</p>	
Potential impact pathway	Screening conclusion – ‘SCREEN OUT’, ‘SCREEN IN’ or ‘IN COMB’
<p><u>Disturbance, Habitat Loss or Physical Damage</u></p> <p>The installation is located approximately 3.5 km from the site and therefor comments made for Severn Estuary SAC apply here also.</p>	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.
<p><u>Changes to the water column</u></p> <p>See comments for Severn Estuary SAC above.</p>	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.
<p><u>Changes to air quality</u></p> <p>As discussed, there is a risk of impact to features from changes to NO_x, SO₂ and NH₃ emissions as a result of the variation. However, the in-river/riverine features (i.e. all apart</p>	SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.

<p>from European otter) listed are not considered sensitive to airborne NO₂, acidic gases such as SO₂ and NH₃ and environmental standards for further assessment are not considered applicable. As such, further consideration of the impacts from toxic contamination, nutrient enrichment or acidification is not required.</p> <p>Otters and their prey are also not sensitive to aerial sources of NO_x, acidic gases such as SO₂ and NH₃. It is not considered there will be emissions at rates high enough to cause any damage to vegetation used by the otters for resting and breeding sites due to the nature of the proposed engine use (testing and emergency operations). Therefore, we consider that there is unlikely to be any reduction in the features quality or extent of otter habitat associated with this variation as a result of nutrient enrichment or acidification and further consideration of these impacts are not required.</p>	
<p><u>Smothering</u></p> <p>See comments for Severn Estuary SAC above.</p>	<p>SCREEN OUT - there is no potential impact from the plan or project on the sites features and a significant effect can be ruled out without further assessment.</p>

TABLE 3.2.3 Screening decision of the plan or project 'alone'	
<p>(a) If the screening conclusion for <u>all</u> features for all sites in Table 3.2.2 is 'SCREEN OUT'</p>	<p>The plan or project is not likely to have a significant effect on any European site, and no further consideration under the Habitats Regulations is required in order to determine the approval/application.</p>
<p>(b) If the conclusion for <u>any</u> features in Table 3.2.2 is 'SCREEN IN'</p>	<p>The plan or project is likely to have a significant effect on one or more European sites and therefore an appropriate assessment is required.</p>
<p>(c) If there are <u>no</u> features in Table 3.2.2 that are 'SCREEN IN' and <u>any</u> features that are 'IN COMB'</p>	<p>The plan or project is not likely to have a significant effect on any European sites when considered alone, but the possibility of significant effects in combination with other plans and projects needs to be considered.</p>

4. Appropriate assessment of the plan or project when considered alone

4.1 Assessment of plan or project as defined

Table 4.1 Appropriate assessment of the plan or project as defined	
European site name: Severn Estuary SAC	Can adverse effects on site integrity be ruled out? 'YES' or 'NO'
<p>As identified in section 3, the site's estuaries feature and its sub-features (and hence the species it supports) are potentially sensitive to NO_x emissions and a conservation objective is to keep concentrations of this pollutant below the set critical levels and loads.</p> <p>This appropriate assessment will focus on the potential impacts from NO_x emissions from the emergency operation (that did not screen out as insignificant) of the new engine arrangement when used as a backup energy supply. For detailed modelling there is no criteria to decide whether PCs are significant. To judge significance, the applicant has considered background concentrations of NO_x. Predicted Environmental Contribution (PEC), which is the predicted PC and the existing background concentrations, has been calculated as percentage of the relevant critical level or load to determine if there is a risk of standard being breached.</p> <p>As per the LSE assessment, results provided separately for CWL11 and CWL12 have been combined to give an indication of impacts from the whole site. Results discussed represent maximum point of impact within the site's boundary.</p>	YES

Emergency Operation – 72 hours

1. Toxic contamination from airborne NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. The maximum short term PEC was calculated to be 464.2 µg/m³. This is over 100% of the critical level (232%) which indicates there is a risk of the critical level being significantly exceeded during a 72 hour emergency outage.

We do not normally assess the impact of unexpected emergency emissions and an appropriate approach is needed for back-up engines. Emergency operation of all of the engines to provide backup power is a very rare event (estimated to be 1 in 20 year event for 2 hours of emergency operation for the previous permit application). The National Grid reliability of the high voltage transmission system to which the data centre is connected is >99.999%.

Statistical calculations made by the operator (for previous applications for this site) determined probability of a breach of the human health NO_x standard at much closer receptors (less than 200m) puts the probability of exceedance at considerably less than 1%, based on the number of hours per year when dispersion characteristics mean that the critical level would be exceeded. It is considered that the likelihood of exceedance of the critical level at this site during infrequent emergency operation is similarly low.

Detailed modelling which considers every year of operation for 5 years of meteorological data, has found that the absolute maximum impact on the Severn Estuary SAC could be above the short term critical level, at 412 µg/m³ as a daily average based on the engines running for 72 hours. However, for this impact to occur, worst case weather (dispersion) characteristics would have to occur for the full 72 hours at the same time as a very rare power supply interruption.

There are no standard permitting criteria for assessing risk from possible, but unlikely emergency events. Given that a long term air emission level is regarded as insignificant if it is less than 1% of the critical level, it is considered that a less than 1% likelihood of exceedance in an emergency is similarly an insignificant risk to the protected site. Permit conditions limit the number of hours of emergency operation, and permit conditions would be reviewed if the likelihood of emergency operation substantially changed.

This assessment is considering the impacts of a 72 hour outage. This is a recent requirement which has not been assessed during previous applications and is based on the most recent guidance for data centres⁶. For the previous variation, the HRA only considered the impacts of a 1 hour outage (in line with guidance at the time of assessment). Results from the air quality modelling submitted to support the previous variation application predicted a breach of the short term critical level in the event of a one hour outage although for similar reasons to those discussed above, there was not considered to be a risk

⁶ [Environment Agency Data Centre FAQ Headline Approach v21 \(15/11/2022\)](#)

of adverse integrity on the site. It has not been possible to model a like for like comparison of the already permitted engine arrangement against the proposed, but emissions from the 1 hour scenario has been screened out as insignificant for this variation assessment (see LSE assessment). This indicates the variation will result in a *reduced risk* of air quality impacts in the event emergency use of the generators is required. LSE also demonstrated that the impact of the engine testing can be screened out as insignificant. This is of most importance, as it is certain to occur.

The existing permit includes additional controls to protect the environment in the event of emergency operation. These include an Air Quality Management Plan (AQMP) which requires the operator to notify NRW in the event of any emergency operation. We will be imposing an Improvement Condition (IC) in the permit requiring the Operator to review and update the AQMP in line with the changes made as a result of this variation. The limits of the permitted activity specifically state that emergency generation shall cease or be reduced if there is credible information that there may an immediate significant adverse effect on the environment (detailed in the permit's Table S1.1). These controls will remain in the permit following the variation.

For the reasons discussed above, it is therefore considered that based on this information in the application, there is no risk of adverse impact on the site integrity.

2. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a minimum critical load of 20 N kg/ha/yr. However, as discussed, for this site we consider a critical load of 10 N kg/ha/yr to be more appropriate for initial assessment.

The maximum PEC was calculated to be 64.1 N kg/ha/yr⁵. This is over 100% of a critical level of 10 N kg/ha/yr (641%) which indicates there is a risk of the critical level being exceeded.

Discussion of results for short term impacts (section 1) above also applies to deposition impacts and as such, **it is therefore considered that based on this information provided by the applicant, there is no risk of adverse impact on the site integrity.**

European site name: Severn Estuary SPA / Ramsar

Can adverse effects on site integrity be ruled out? 'YES' or 'NO'

As identified in section 3, the estuaries feature and its sub-features are potentially sensitive to NO_x emissions and a conservation objective is to keep concentrations of this pollutant below the set critical levels and loads. The Core Management Plan is clear in that the estuaries feature and its sub features are supporting habitats to the species which are features of the SPA and RAMSAR.

This appropriate assessment will focus on the potential impacts from NO_x emissions from the emergency operation (that did not screen out as insignificant) of the new engine arrangement when used as a backup energy supply. As discussed, the applicant has considered background concentrations of NO_x and PEC has been calculated as percentage of the relevant critical level or load to determine if there is a risk of the standard being breached.

1. Emergency Scenario – 1 Hour

1.1. Toxic contamination from airborne NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. The maximum short term PEC was calculated to be 77.34 µg/m³. This is less than 100% of the critical level (77.35%) and therefore there is no anticipated breach of the critical level and **emissions are not considered significant.**

2. Emergency Scenario – 72 Hours

2.1. Toxic contamination from airborne NO_x – short term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. As discussed, we are in agreement with the critical level used. The maximum short term PEC was calculated to be 656.1 µg/m^{3.5}. This is over 100% of the critical level (328%) which indicates there is a risk of the critical level being exceeded.

However:

- The likelihood the generators will be used in an emergency scenario is rare when considering the reliability of the grid (99.999%)
- Statistical analysis has previously indicated that the probability of exceedances of environmental standards is less than 1%
- Modelled impacts are not likely to represent actual impacts due to the conservative modelling approach

YES

- Results of the modelling indicate the variation will result in a reduced risk of air quality impacts when considering results for the 1 hour emergency scenario did not screen out for the previous variation and they have for this proposal
- The permit includes controls to protect the environment in the event of an emergency scenario which will remain in place following this variation

Please refer to the appropriate assessment for the Severn Estuary SAC (short term assessment) for a detailed discussion of these points.

Based on the information in the application, it can be concluded there is no risk of adverse impact on the sites integrity.

2.2. Toxic contamination from airborne NO_x – long term assessment

Emissions of NO_x were assessed against a short term critical level of 200 µg/m³. As discussed, we are in agreement with the critical level used.

The maximum short term PEC was calculated to be 26.54 µg/m³. This less than 100% of the critical level (88%) and therefore **emissions are not considered significant where there is no anticipated breach of the critical level.**

2.3. Nutrient enrichment from NO_x deposition

NO_x deposition has been assessed against a critical load of 10 N kg/ha/yr. As discussed, we are in agreement with the critical load used. The maximum PEC was calculated to be 13.1086 N kg/ha/yr (where background is already exceeding the lower end of the critical load range). This is over 100% of the critical load (131%) which indicates there is a risk of the critical level being further exceeded.

However:

- The likelihood the generators will be used in an emergency scenario is rare when considering the reliability of the grid (99.999%)
- Statistical analysis has previously indicated that the probability of exceedances of environmental standards is less than 1%
- Modelled impacts are not likely to represent actual impacts due to the conservative modelling approach
- Results of the modelling indicate the variation will result in a reduced risk of air quality impacts when considering results for the 1 hour emergency scenario did not screen out for the previous variation and they have for this proposal
- The permit includes controls to protect the environment in the event of an emergency scenario which will remain in place following this variation

<p>Please refer to the appropriate assessment for the Severn Estuary SAC (short term assessment) for a detailed discussion of these points.</p> <p>Based on the information in the application, it can be concluded there is no risk of adverse impact on the sites integrity.</p>	
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4.2 Appropriate assessment of the plan or project taking into account additional conditions or restrictions imposed by the competent authority

Table 4.2 Appropriate assessment of the plan or project taking into account additional conditions or restrictions				
European site name: Severn Estuary SAC / SPA / Ramsar				
European site Feature	Adverse effect(s)	Can adverse effect(s) be mitigated by additional imposed conditions or restrictions? 'YES' or 'NO'	Additional imposed mitigation measure(s)	Can adverse effect on site integrity be ruled out? 'YES' or 'NO'
<p>N/A – There is no requirement to consider additional measures as it has been shown that impact alone can be ruled out as having adverse effect on site integrity. This is partly due to nature of the operation and mitigation measures in the form of SCR which are integral to the proposal as put forward by the applicant. The Operator will be required to operate as per the application proposal through the permits operating techniques.</p>				

4.3 Concluding the appropriate assessment of the plan or project alone

Table 4.3 Conclusion of the appropriate assessment alone	
<p>(a) If Table 4.1, or the right hand column of Table 4.2 if applicable, is 'YES' for all features</p>	<p>It has been ascertained that the plan or project, when considered alone, will not adversely affect the integrity of any European sites.</p>

(b) If there are any 'NO's in the right hand column of Table 4.2	It has not been ascertained that the plan or project, when considered alone, will not adversely affect the integrity of one or more European sites.
(c) Are there any residual effects of the plan or project (net of mitigation measures) which, though not adverse on their own, could be significant when considered in combination with the effects of other plans or projects?	YES

5. In combination assessment

Table 5.1 Identification and assessment of in combination effects

European site name: Severn Estuary SAC / SPA / Ramsar

For the purpose of the in-combination assessment, impacts at the 3 Severn Estuary sites will be discussed together initially, with more localised impacts being assessed should a need be required.

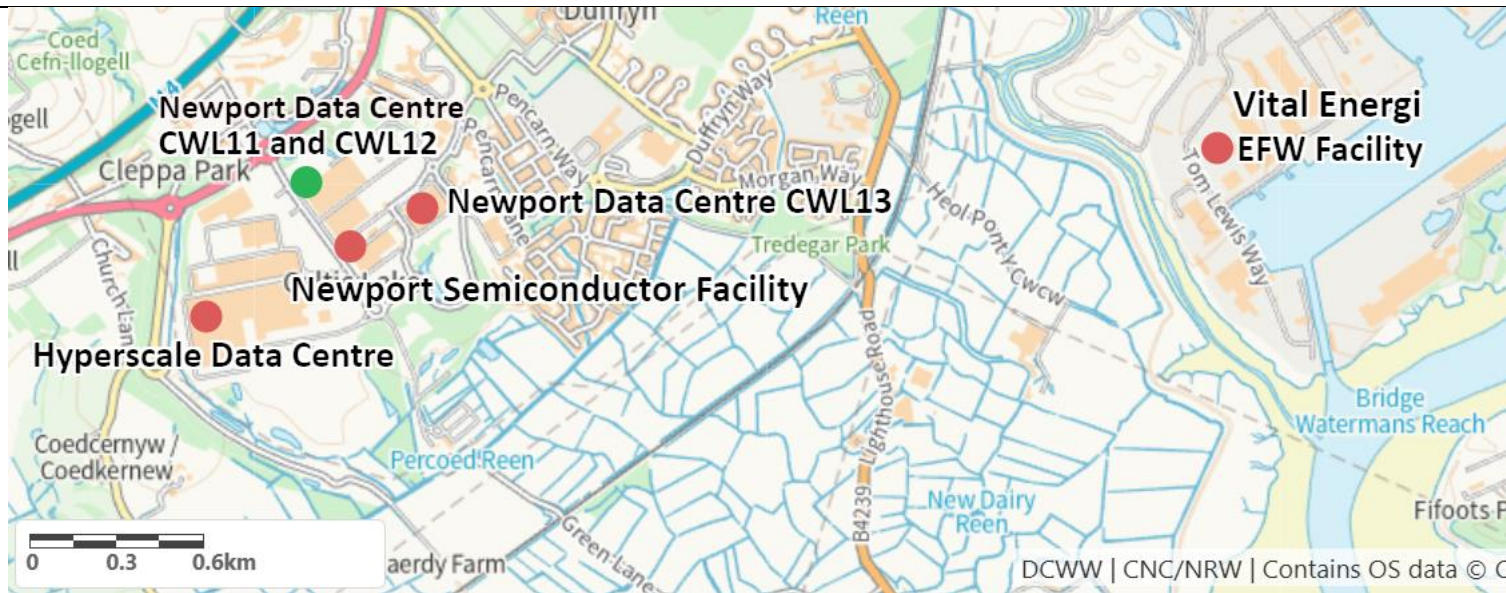
Potential in combination effects to be considered:

It has been ascertained, following assessment of the applicant's air quality modelling, that the impact of changing emissions from the proposed Newport Data Centre will have no adverse impact on the sites integrity. Whilst impact has been determined to not adversely impact the site alone, there are residual impacts which could act in combination with other relevant plans/projects in the area. This assessment will consider these, and the impact pathways screened out as insignificant alone in section 3 (LSE) but identified as having potential residual effects in-combination (i.e. checking if effects of the projects in combination won't make insignificant effect significant).

As discussed in this assessment, the Severn Estuary SAC / SPA / Ramsar estuaries feature (and its sub-features), are sensitive to air pollution impacts. These include toxic contamination from ambient NO_x, nutrient enrichment from NO_x deposition and Acidification from N and S deposition.

Relevant projects which have been considered for the inclusion in an in-combination assessment include:

- Newport Data Centre (CWL13) operated by Vantage Data Centres UK Limited (permit number EPR/CB3895HY) located immediately adjacent to the east
- Newport Hyperscale Data Centre operated by Microsoft (application reference PAN-026552), located 350 m west
- Newport Semiconductor Facility operated by IQE Silicon Compounds (permit number EPR/AB3893FZ), located 100 m south;
- Energy Recovery Facility (ERF) operated by Vital Energi Ltd (application reference PAN027048), located 3.1 km northeast.



These have the potential to be relevant projects as they are associated with emissions of NO_x which would not have been captured in background concentration data.

We have assessed the need for these projects to be included and have decided the Newport Semiconductor can be excluded from assessment on the following basis. At the time the applicant completed the in-combination assessment, the variation application for Newport Semiconductor Facility (application reference PAN-024249) to add 4 new natural gas fires steam boilers (each with a thermal input of less than 1MW) and 2 x back up diesel generators (each with a thermal input of 5 MW) was in determination. At time of writing this assessment, the variation had been granted (permit number EPR/AB3893FZ/V003, granted 11/11/2024). As per the data presented for this site by the applicant, taken from the application information in the public domain, the contributions from these engines are minimal due to the scale of the activity. We do not consider the in-combination impacts from this activity to change the significance of impacts from Newport Data Centre.

We have also excluded the Energy Recovery Facility from this in-combination assessment. We consider a full alone assessment is first required, which will take place during the application's determination. Once that assessment is completed, should it be shown to have no adverse effect on site integrity alone, an in-combination assessment will be completed at that time.

The applicant's air quality modelling report has assessed all these projects together as one using modelling results for the other sites which are in the public domain. For our assessment, we will use the applicant's report data but we will consider a progressive approach, considering the most significant projects first in a sequential manner.

Newport Data Centre (CWL13) operated by Vantage Data Centres UK Limited (permit number EPR/CB3895HY)

The air quality modelling submitted by the applicant considers the in-combination impact of CWL11, 12 and 13 throughout its assessment. Individual results for each scenario will not be discussed in this section, instead the calculations supporting this assessment can be found in PAN-026558 – OGN 200 Form 1 Appendix 1.

The in-combination effects of the two adjacent sites testing regimes is an important part of this assessment because of the number of engines across the sites and the potential for testing to overlap. However, the applicant's air quality modelling has shown that for all tests, in-combination impacts (under the worse meteorological conditions from a 5-year period assessed) screen out as being insignificant at the Severn Estuary SAC, SPA and Ramsar.

Emergency outage of the two sites together has been considered by the applicant. The HRA assessment completed for CWL13⁷ noted that any power supply interruption would affect both sites together, resulting in all engines on both sites operating. That assessment concluded that impacts are dominated by CWL11/12, with CWL13 making an incremental difference only. Detailed modelling provided by the applicant has assessed the in-combination impacts of the two sites with the new proposed engine arrangement at CWL11 and CWL12.

For the 1 hour emergency scenario, apart from the assessment of the maximum short term PC at the Severn Estuary SPA/Ramsar, all results can be screened out as insignificant. For the short term assessment of NO_x, background concentrations have been considered and PEC at the Severn Estuary SPA/Ramsar was calculated to not exceed the relevant critical level (39%).

For the 72 hour outage emergency scenario, the combined result for maximum long term PC against the relevant critical level screened out as insignificant.

PEC for short term contribution and NO_x deposition (at both the Severn Estuary SAC and SPA/Ramsar) indicated an exceedance of the relevant short term critical level and load (at the SAC, 240% and 130% respectively and at the SPA/Ramsar, 347% and 131% respectively). However, CWL13 has almost identical operating techniques to those at CWL11 and CWL12. The permit application for CWL13 sufficiently demonstrated how a 1 hour outage would be considered a very rare event. It then follows that a 72 hour event, as being discussed here, would be considered even rarer as it has been determined for CWL11 and CWL12. It is reasonable to apply the rationale used for modelled exceedances of the critical levels/loads under emergency scenarios in the alone assessment being acceptable here also. For those reasons it is considered that there is no risk of adverse impacts on the sites integrity as result of the impacts in-combination of CWL11,12 and 13.

Newport Hyperscale Data Centre operated by Microsoft (application reference PAN-026552)

⁷ [https://cyfoethnaturiolcymru.sharepoint.com/teams/Regulatory/Permitting/SE%20EPR%20Regulated%20Industry/EPR-CB3895HY/PAN-019560%20-%20SNCB%20consultation%20request%20\(HRA%20form%201%20and%20App4\).msg](https://cyfoethnaturiolcymru.sharepoint.com/teams/Regulatory/Permitting/SE%20EPR%20Regulated%20Industry/EPR-CB3895HY/PAN-019560%20-%20SNCB%20consultation%20request%20(HRA%20form%201%20and%20App4).msg)

Newport Hyperscale Data Centre is a proposed new data centre located 350m to the west of Newport Data Centre. The proposed operator of this site has made an application for a new bespoke permit to operate 28 emergency backup diesel generators, two administrative building generators and one water treatment plant generator. These will have an aggregated MWth input of 236.

The applicant has screened out assessment of the combined impact should Newport Data Centre and Newport Hyperscale Data Centre have to use their back-up generators for emergency use during a power outage. Justification of this is that this scenario is considered to have a very low likelihood of occurrence where use of the generators in an emergency scenario is site-specific (e.g. failure of local substation) and unlikely to occur at both sites at the same time. This likelihood of occurrence combined with the precautionary approach of the in-combination assessment (e.g. assumption of worse meteorological conditions, using sum of PCs from point of maximum impacts from each site) means the results would not give any credible indication of a real impact. We agree with this in this instance. As discussed previously in this assessment, likelihood of an whole site outage is considered extremely low and likelihood of the two sites losing power at the same time (e.g. in a regional power outage) would be even lower. As discussed, there are controls in place in the existing permit, which will remain in place following this variation which protect the environment in the instance where credible information indicates significant adverse effects.

Due to the number of proposed engines at all the data centres (including the CWL13 site) and the planned testing regimes, it is credible that testing of engines will overlap. Therefore consideration of the in-combination impacts of testing need to be considered.

When combining the predicted maximum PCs from the three data centre's testing regimes, results for atmospheric NO_x long term contributions (toxic contamination) and NO_x deposition (nutrient enrichment) screened out as being insignificant. Acidification could not be assessed as PC values were not available but where acidification PC from Newport Data Centre have been shown to screen out alone and NO_x deposition from both sites has screened out as insignificant, it is reasonable to assume there is no anticipated adverse impacts from acidification from the both data centres in combination.

Short term emissions of NO_x from both sites were assessed against a short term critical level of 200 µg/m³. As discussed, we are in agreement with the critical level used. The maximum short term PEC was calculated to be 10.21µg/m³. This is less than 100% of the critical level (5%) and therefore there is no anticipated breach of the air quality standard and combined emissions are considered significant where there is no anticipated breach of the critical level.

Note that this assessment has been based on the Newport Hyperscale Data Centre proposal as applied for. It may be that air quality modelling results change during determination and an in-combination assessment will be completed using any updated results (if relevant) during the determination of that application.

Can significant or adverse in combination effects be ruled out for all features? YES

Table 5.2 In combination assessment: results	
(a) If the answer for all features considered in Table 5.1 is 'YES'	The plan or project, when considered in combination with other plans and projects, is either not likely to have a significant effect on, or will not adversely affect the integrity of, any European site.
(b) If the answer for any features considered in Table 5.1 is 'NO'	The plan or project in its current form is likely to have a significant effect on, or an adverse effect on, European site/s in combination with other plans or projects.

6. Conclusion

<p>HRA is not required because there is no conceivable impact on any European sites. (As documented in section 2.1)</p>	
<p>HRA is not required because the whole of the plan or project is directly connected with or necessary to the management of one or more European sites, for the purposes of conserving the habitats or species for which the site(s) is/are designated, <u>and</u> the plan or project is not likely to have a significant effect on any other European sites. (As documented in section 2.2 and 2.3)</p>	
<p>This project is a renewal of a current permission which complies with NRW agreed criteria for ruling out likely significant effects of a renewal without conducting a project-specific LSE test. Therefore, it is considered not likely to have a significant effect on any European sites, either alone or in-combination with other plans or projects. (As documented in section 3.1 of this form)</p>	
<p>The plan or project has been screened for likelihood of significant effects and is considered not likely to have a significant effect on any European sites. (As documented in section 3.2 of this form, and section 5 if applicable)</p>	
<p>In light of the conclusions of an appropriate assessment it has been established that the plan or project will not adversely affect the integrity of any European sites, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans or projects. (As documented in section 4 of this form, and section 5 if applicable)</p>	<p>X</p>
<p>In light of the conclusions of the appropriate assessment, it has <u>not</u> been ascertained that the plan or project will not adversely affect the integrity of any European sites, as documented in section 4 of this form, and section 5 if applicable. Approval for the plan or project <u>cannot</u> be given unless either:</p> <ul style="list-style-type: none"> • the plan or project specification, and/or the terms under which it might be approved, are modified so as to remove the risk of adverse effects, and a revised HRA is prepared, or • the plan or project (not being an SSSI consent*) satisfies the requirements for a derogation and a Derogation Notice is prepared and submitted for consideration by the appropriate authority, normally Welsh Ministers <p>(*SSSI consents cannot be given as derogations)</p>	
<p>Signed: Jennifer McGuire</p> <p>Name: Jennifer McGuire Position: Lead Specialist Officer, Installations and RSR Permitting</p> <p>Date: 31/01/2025</p>	
<p>Was this HRA conclusion an escalated decision? YES or NO</p>	<p>NO</p>

7. Consultation with the ANCB and how sections 2, 3, 4 and 5 of this HRA report (as applicable) take into account that advice

Relevant section of the HRA report	Correspondence and/or meetings with the ANCB	Description of how the comments from the ANCB have been taken into account
3, 4 & 5	OGN 200 Form 2 received 30/01/2025	<p>The ANCB agreed with the comments and conclusions of the HRA.</p> <p>The ANCB advice was supplemented by a review of the draft HRA from internal technical specialists. This review highlighted a small number of grammatic and formatting errors which were corrects. Advise was also given in terms of presentation of conclusions in the appropriate assessment section. This advice was taken on board and the section updated accordingly. Please see email dated 30/01/2025 for more information.</p>

8. Appendix 1 - Supporting information

[OGN 200 Appendix 1 HRA Supporting Figures](#)