Decision document - variation

We have decided to grant the variation for Hinkley Point C (HPC) construction site operated by NNB Generation Company (HPC) Limited (referred to as NNB GenCo (HPC) within the remainder of this decision document).

This variation application, referenced as variation 13 (EPR/JP3122GM/V013) in this decision document, amends the water discharge activity (WDA) permit description of WDA references A1(i), A1(ii) and A1(iii) for the additional discharge via the construction surface water network (via water management zones (WMZs) 1, 2 and 3) of small volumes (up to 10m³ per day (m³/day)) of water released during periodic testing (including pressure and flow testing) of the site's new fire hydrant network.

The water from the fire hydrant system will contain concentrations of ammonia and ethanolamine. WDAs A(i), A1(ii) and A1(iii) discharge to the Severn Estuary via outlet 1 located at national grid reference (NGR) ST 20375 46165.

This variation also permits the addition of a new WDA as reference J (as J(i) and J(ii)); these are formed of effluents that have been segregated from the existing permitted WDA reference I effluent. This segregation is required by the operator to ensure that the whole capacity of the discharge through WDA reference I is utilised for the effluent containing concentrations of hydrazine and/or ammonia which will receive treatment by the site's commissioning effluent treatment plant (CETP) prior to its discharge to the Severn Estuary via outlet 12.

For awareness, outlet 12 is located at NGR ST 19315 46475 near the seaward end of the HPC construction jetty which is located 50m beyond the mean low water spring tide and within a minimum water depth of 3.0m at low tide.

WDAs J(i) and J(ii) will also be discharged via outlet 12 and are required to allow for the discharge of effluents generated as part of cold commissioning activities and from the site's water demineralisation plant:

- **WDA reference J(i):** This effluent is generated from hydro-testing and flushing associated with cold commissioning activities not containing ammonia and/or hydrazine (but potentially containing ethanolamine and trisodium phosphate) that bypasses the CETP up to a maximum volume of 1,500m³/day. For awareness, the concentrations of ethanolamine and trisodium phosphate were previously confirmed as environmentally insignificant during the determination of variation 10 of this permit (EPR/JP3122GM/V010) (NNB GenCo (HPC) 2025a), as they were

screened out of the surface water pollution risk assessment (SWPRA) process defined in our guidance (Environment Agency 2016 and 2019b).

- **WDA reference J(ii):** This effluent is generated from the production of demineralised water from the site's water demineralisation plant up to a maximum volume of 1,500m³/day; this involves purifying water to be used for the hydro-testing and flushing described above. The production of this demineralised water results in a by-product (comprising a concentrate of potable water) and use of DBNPA as a biocide to prevent biofouling of the reverse osmosis (RO) and pre-treatment filters.

The variation also permits a change of the discharge pattern from an originally planned batched discharge to a continuous discharge for the existing permitted WDA reference I, and newly permitted WDA references J(i), and J(ii). The operator has confirmed that the change from a pulsed/batched to continuous discharge regime is required to increase operational flexibility and to efficiently utilise the CETP following its detailed design outcomes. The original pulsed discharge (as assessed as part of variation application EPR/JP3122GM/V012) was based on the then proposed operation of the CETP in batch-mode and discharge was not in any way linked to tidal state (NNB GenCo (HPC) 2025a).

The concentrations and impact on the Severn Estuary of key potential pollutants in the effluents generated under WDAs I, J(i) and J(ii) were fully assessed in our previous determination of variation applications that were granted for this permit on 25 March 2022 (for variation application 9, EPR/JP3122GM/V009) and 22 September 2025 (for variation application 12, EPR/JP3122GM/V012).

Our previous assessments from these variation determinations have assisted our determination of this permit variation application (variation application 13, EPR/JP3122GM/V013):

- **WDA I:** Copper is present as a catalyst for the destruction of hydrazine in the CETP, and chlorine is utilised in the CETP's treatment process to oxidise ammonia.
- **WDA J(i) and J(ii):** Copper, chlorine and zinc are present in the potable water supply to the demineralised water plant, and the demineralisation process of the potable water will result in these three substances being concentrated. Other treatment chemicals which are required to maintain the efficiency of the demineralised water plant, including by "cleaning in place" (CIP) and via use of a biocide known as DBNPA (CAS reference 10222-01-2, with a common name of 2,2-dibromo-3-nitrilopropionamide and IUPAC name of 2,2-Dibromo-2-cyanoacetamide). Use of DBNPA is required to prevent biofouling of the reverse osmosis (RO) and pre-treatment filters within the demineralised water plant. The use and treatment of DBNPA by neutralisation (via use of sodium bisulphite) is incorporated within the permit via operating technique 13 (OT13).

Finally, this variation also amends the permit to include the additional discharge under WDAs A1(i), A1(ii) and A1(iii)) of small volumes of natural groundwater seepage from within the completed tunnels (two cooling water intake tunnels and single cooling water outlet tunnel) and raking drains, as well as small volumes of rainfall generated surface water run-off from the tunnel entrance areas. These additions will receive treatment via the existing water management zones (WMZs) 1, 2 and 3 prior to discharging via outlet 1.

The effluent discharges under WDAs A1(i), A1(ii), A(iii), I, J(i) and J(ii) will be monitored by NNB GenCo (HPC), and that effluent monitoring reported to us (the Environment Agency) and assessed against these compliance limits (as defined with the environmental permit and summarised below in this decision document). This is required in addition to our own permit compliance monitoring.

This variation does not amend any of the other existing permit compliance requirements, nor does it replace or introduce other any new permit compliance limits for the existing permitted WDAs via discharge activities B, C, E1, E2, F and H regulated by this environmental permit.

Under regulation of this environmental permit (EPR/JP3122GM), the existing construction related WDAs that are also discharged via outlet 1 and outlet 12 are as follow:

- **WDA E1:** for the discharge of trade effluent consisting of pumped groundwater is discharged via outlet 1
- **WDA E2:** for the discharge of trade effluent consisting of pumped groundwater is discharged via outlet 12
- **WDA F:** for the discharge of trade effluent consisting of cementitious wash water is discharged via outlet 12
- **WDA H:** for the discharge of trade effluent consisting of tunnelling effluent and muck bay drainage is discharged via outlet 12

For information, under regulation of a separate WDA environmental permit held by the operator (reference EPR/XP3321GD), outlet 12 is also used to discharge 1,150 cubic metres per day (m^3/day) of secondary treated sewage effluent (subject to ultraviolet irradiation) from the construction phase sewage treatment plant (CSTP) serving the construction site for HPC.

As per Part 2, Regulation 20 of the Environmental Permitting Regulation (England and Wales) 2016 (EPR), operators can apply to the Environment Agency for a variation to an existing environmental permit at any time. The process we follow in assessing an application for a variation to a permit is described in the government's EPR core guidance (Defra 2020).

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 to show how the main relevant factors have been taken into account. We have assessed the aspects that are changing as part of this variation, we have not revisited any other sections of the permit.

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
- 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 and the variation notice.

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 consider to be confidential.

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 comments and our responses are summarised in the consultation responses section.

We advertised and consulted on NNB GenCo (HPC)'s variation application (EPR/JP3122GM/V013) from 28 October 2025 to 30 November 2025 (a period of 24 working days or 34 calendar days), in accordance with Regulation 60 of the EPR 2016, our public participation statement (Environment Agency 2019a) and the government's published consultation principles (Cabinet office 2018).

The variation application was publicised on 28 October 2025 on our GOV.uk website and our e-consultation tool (known as 'Citizen Space' at the time of our consultation) which hosted the operator's variation application documents, and enabled interest parties/individuals to provide their responses online.

We also included a link to our e-consultation tool via our nuclear consultation publication page on GOV.uk.

The variation application was also advertised in the local newspaper, The Bridgwater Mercury (including the Burnham and Highbridge weekly news). The advertisement appeared in both local paper print (on 28 October 2025) and online formats, which could be read by people living near to the HPC site in Somerset, as well as nationally.

On the 28 October 2025 we also issued an e-bulletin and used our social media regarding the publication and e-consultation of the variation application (via use of Environment Agency accounts on X and LinkedIn). Our engagement plan for HPC can be accessed and reviewed on GOV.uk

We consulted the following organisations on 28 October 2025:

- Devon and Severn Inshore Fisheries and Conservation Authority (D&C IFCA)
- Marine Management Organisation (MMO)
- Natural England (NE)
- Natural Resources Wales (NRW)
- Somerset County Council
- Somerset West and Taunton Council
- Stogursey Parish Council

The comments received and our responses are summarised in the consultation responses section.

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'.

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 a plan which we consider to be satisfactory. These show the extent of the site of the facility including the discharge points. The plan is included in the permit.

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

We have checked the location of the variation 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 also considered designations outside our screening distances for this variation application. This is due to the application presenting potential risks to mobile migratory species that are functionally linked to these further designations.

We have assessed the variation 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.

Following our assessment of this variation application (variation 13, EPR/JP3122GM/V013) we consider and conclude that it will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified (Environment Agency 2026). We have provided a brief summary of this below.

We (the Environment Agency, as a competent authority) are required, under the Conservation of Habitats and Species Regulations 2017 (as amended) (the regulations), to undertake a habitats regulations assessment (HRA) for any permissions it grants that have the potential to impact upon European designated sites, which include (collectively these types of sites are known as European sites):

- Special Areas of Conservation (SACs), which are designated under the regulations for important high quality habitat sites.
- Special Protection Areas (SPAs) are classified for rare and vulnerable birds, and for regularly occurring migratory species
- Ramsar sites, which are wetlands of international importance designated under the Ramsar Convention. Government policy gives Ramsar sites the same protection as those designated under the regulations and so were also included within the assessment

Additionally, under Section 28I of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act (CRoW) 2000), we have a duty to seek advice from, and consult Natural England (NE) before permitting any activities that may damage a Site of Special Scientific Interest (SSSI) within England and Natural Resources Wales (NRW) for SSSIs within Wales.

The following sites have been screened and deemed relevant for consideration as part of our determination of this variation application (as they were for variations 9 and 12):

1.) Severn Estuary/Môr Hafren SAC (ID reference: UK0013030)
2.) Severn Estuary/Môr Hafren SPA (ID reference: UK9015022)
3.) Severn Estuary/Môr Hafren Ramsar (ID reference: UK11081)
4.) River Wye/Afon Gwy SAC (ID reference: UK0012642)
5.) River Usk/Afon Wysg SAC (ID reference: UK0013007)
6.) Somerset Levels and Moors SPA (ID reference: UK9010031)
7.) Somerset Levels and Moors Ramsar (ID reference: UK11064)
8.) Brean Down SSSI (ID reference: 1001162)
9.) Bridgwater Bay SSSI (ID reference: 1001166)
10.) Blue Anchor to Lilstock SSSI (ID reference: 1001374)
11.) Severn Estuary SSSI (ID references: 461 and 1002600)
12.) Steep Holm SSSI (ID reference: 1001363)
13.) Flat Hold SSSI (ID reference: 570)
14.) River Usk SSSI (ID reference: 1425)
15.) River Wye SSSI (ID reference: 1361)
16.) Westhay Moor SSSI (ID reference: 1001412)
17.) Westhay Heath SSSI (ID reference: 1001084)
18.) Tealham and Tadham Moors SSSI (ID reference: 1001408)
19.) Catcott Edington and Chilton Moors SSSI (ID reference: 1001377)
20.) Shapwick Heath SSSI (ID reference: 1000962)
21.) Moorlinch SSSI (ID reference: 1001579)
22.) King's Sedgemoor SSSI (ID reference: 1001578)
23.) Southlake Moor SSSI (ID reference: 1001581)
24.) West Sedgemoor SSSI (ID reference: 1001617)
25.) Curry and Hay Moors SSSI (ID reference: 1001064)
26.) Wet Moor SSSI (ID reference: 1001616)
27.) West Moor SSSI (ID reference: 1001591)

The above 27 sites were included within our screening and assessments (Environment Agency 2022, 2025a, 2025b and 2026), because they are either:

- Sites that have ‘direct connectivity;’ these are sites where the permission is located within or discharges directly into it. We consider the single tidal excursion to be an appropriate screening criterion within coastal/estuarine waters; this is the net horizontal distance over which a water particle moves during one tidal cycle of flood and ebb (in the specific location at HPC it equates to approximately 20km in both directions within the Severn Estuary). This single tidal excursion approach is consistent with previously determined construction WDA permit variation applications HPC.

- Potentially more distant UK sites that still require consideration, as they have mobile migratory fish species that can travel great distances. Such species could be present within the waters affected by the existing discharge points via outlets 1 and 12 at HPC. Therefore, any impact on them must be considered (as there could be a functional linkage between the Severn Estuary and the relevant sites)

Our internal Habitats Regulations Assessment system (HRAs) database generates a list of reasonably foreseeable risks that are associated with water discharge activities and may impact the sites identified in our screening.

The risks below are those which would be considered and assessed for a water quality permit variation application submitted to the Environment Agency, which may require a either a Habitats Regulations (under the Conservation of Habitats and Species Regulations 2017) and/or CRoW (SSSI) appendix 4 assessment (under Section 28I of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act (CRoW) 2000)):

- Nutrient enrichment
- Change in salinity regime
- Change in thermal regime
- pH
- Physical damage
- Siltation and turbidity
- Toxic contamination

Our assessments (via Environment Agency 2022, 2025a and 2025b) have focussed upon the risk of toxic contamination through the increased concentrations of copper, zinc, free chlorine and chemicals associated with operation of the water demineralisation plant. Such metals and chemicals can be toxic to species and habitats causing direct impacts such as the death of organisms in the receiving waterbody, or indirect impacts through bioaccumulation.

The remaining risks are not relevant to the proposed variation, and so did not require further assessment within our HRA (Environment Agency 2025a).

The HPC construction WDA permit has been varied multiple times, as has been required to reflect the progression of the various construction stages of the HPC power station project and the relevant WDAs associated with these various construction stages.

As described above, this variation application (variation 13, EPR/JP3122GM/V013) is required to:

1.) Incorporate into the existing WDAs A1(i), A1(ii) and A(iii) the discharge of up to 10m³/day of water (containing concentrations of ammonia and ethanolamine) generated from testing of the site's fire hydrant system for treatment via water management zones (WMZs) 1, 2 and 3 for discharge via outlet 1
2.) Segregate effluents already permitted under the existing WDA I to form WDAs I, J(i) and J(ii) for discharge via outlet 12.
3.) Amend the discharge pattern from an originally planned batched discharge to a continuous discharge for the existing permitted WDA reference I, as well as the newly permitted WDA references J(i), and J(ii).
4.) Incorporate into the existing WDAs A1(i), A1(ii) and A1(iii) the discharge of small volumes of naturally occurring groundwater seepage from within the three completed tunnels (two cooling water intake tunnels and single cooling water outlet tunnel) and raking drains, as well as small volumes of rainfall generated surface water run-off from the tunnel entrance areas for treatment via WMZs 1, 2 and 3 for discharge via outlet 1.

It is important to note that we have previously assessed the concentrations and impact on the Severn Estuary (and its surrounding European site and SSSI designations) of the key potential pollutants in the effluents generated under WDAs I, J(i) and J(ii) during our determination of variation applications 9 and 12 of this permit. We granted these two variations on 25 March 2022 (for variation application 9, EPR/JP3122GM/V009) and 22 September 2025 (for variation application 12, EPR/JP3122GM/V012):

- **WDA I:** Copper is present as a catalyst for the destruction of hydrazine in the CETP, and chlorine is utilised in the CETP's treatment process to oxidise ammonia (the permit contains existing numeric compliance limits for hydrazine, ammonia and copper for WDA I that will remain in place following determination of variation 13 as a result of being permitted following determination of variation 9).
- **WDA J(i) and J(ii):** Copper, chlorine and zinc are present in the mains potable water supply to the site's water demineralisation plant; the demineralisation process of the potable water will result in these three substances being concentrated (numeric compliance limits for copper, chlorine and zinc will be included in the permit for WDA J(i) and J(ii) within table S3.1 as a result of variation 13, but were originally permitted for WDA I following determination of variation 12).

  Other treatment chemicals which are required to maintain the efficiency of the water demineralisation plant, including by "cleaning in place" (CIP) and via use of a biocide known as DBNPA (CAS reference 10222-01-2, with a common name of 2,2-dibromo-3-nitrilopropionamide and IUPAC name of 2,2-Dibromo-2-cyanoacetamide). Use of DBNPA is required by HPC to

prevent biofouling of the reverse osmosis (RO) and pre-treatment filters within the water demineralisation plant. The use of DBNPA and its subsequent treatment by neutralisation (via use of sodium bisulphite) was already incorporated within the permit following determination of variation 12 for WDA I (as assessed within Environment Agency 2025a and 2025b), but will now apply to WDA J(i) and J(ii) via operating technique 13 (OT13).

We have determined that the proposed changes required (as applied for in variation 13) do not represent either a new, or increased environmental risk to the 27 sites above that have previously been assessed as part of our determinations of variation applications 9 and 12 (Environment Agency 2022, 2025a and 2025b). We have summarised this below for the relevant WDAs:

WDA A1(i), A(ii) and A(iii): There is no change to the existing permitted maximum combined flow rate of 1,800l/s (as specified in table S3.1 of the permit). The small addition of up to 10.0m³/day of ammoniated firewater will be diluted appropriately prior to discharge via outlet 1 (as specified in table S3.2 of the permit) resulting in the concentration of ammoniacal nitrogen and ethanolamine being below their relevant environmental quality standards (EQS). The additional discharge from the completed heat sink tunnelling works under WDAs A1(i), A(ii) and A(iii) via treatment within WMZs 1, 2 and 3 will contain negligible volumes of groundwater (from seepage within the three completed tunnels) as well as rainfall dependant surface water runoff (from the tunnel entrance areas). No change to the existing permitted discharge flow rate of 1,800l/s is required as a result of these minor volume additions, which will not introduce any new pollutants or hazardous chemicals and will provide additional dilution to the Activity A1(i) to A(iii) discharge via outlet 1.

WDA I: As previously discussed in this decision document, the main change as a result of this variation application (variation 13) is the segregation of effluent waste streams from the existing permitted WDA I to form the newly permitted WDA J(i) and J(ii). This is required to ensure that the whole capacity of the discharge through WDA reference I is utilised for the effluent containing concentrations of hydrazine and/or ammonia which will receive treatment by the site's commissioning effluent treatment plant (CETP) prior to its discharge). This segregation results in a significant proportion of the effluent previously permitted via WDA I now being under permitted via activity J(i) and J(ii). Additionally, as a result of variation 13, the operational pattern has been changed from a pulsed/batched discharge to a continuous discharge. The revised activity has already been assessed and permitted in variation 12.

WDA J(i) and J(ii): Discharges several environmentally insignificant effluents which were previously screened out of the assessment process following our guidance (Environment Agency 2016 and 2019b), as assessed during our determinations of variation 9 and 12.

This WDA also contains wastewater effluent generated from concentrated potable water and the chemicals from the site's demineralised water plant. These effluents were fully assessed as part of our determination of variation 12 and deemed environmentally acceptable; as there is no change in the chemical concentrations proposed to be discharged that are within allowable EVF limits, as defined in our guidance (Environment Agency 2016 and 2019b).

Change from a batched to a continuous discharge: Under this permit variation application (variation 13), the total combined permitted discharge volume of WDAs I, J(i) and J(ii) is 4,500m^3/day via outlet 12. This equates to a maximum discharge volume of 1,500m^3/day from each discharge activity (WDA I, J(i) and J(ii)).

This differs from the maximum discharge volume of 1,500m^3/day (via outlet 12) originally permitted for WDA I alone (as originally permitted following determination of variation application 9).

However, although the total combined maximum discharge volume from WDAs I, J(i) and J(ii) now increases as a result of this variation (from 1,500 to 4,500m^3/day), the maximum flow rate decreases from 70l/s (as permitted for WDA I following determination of variation 9) to a combined maximum flow rate of 52.08l/s for WDAs I, J(i) and J(ii). The reduction from 70l/s to 52.08l/s is due to changing from a pulsed/batch discharge to a continuous discharge format. This equates to a maximum individual discharge flow rate of 17.36l/s (rounded up to 17.4l/s within table S3.1) for each discharge via WDAs I, J(i) and J(ii). The updated water quality modelling presented in the application (NNB GenCo HPC 2021 and 2024) demonstrates an improvement for the receiving environment within the Severn Estuary for a change in the proposed discharge pattern from operation of a batched to a continuous discharge for WDAs I, J(i) and J(ii).

Our assessment conclusions reached in the determination of variations 9 and 12 are not changed in light of the requested changes of variation 13, and we conclude this variation does not represent a new or increased risk to the protected 27 sites and their features. Therefore, we did not deem it necessary or appropriate (Environment Agency 2026) to undertake new Habitats Regulations and SSSI assessments for this variation (variation 13) as it will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have concluded that the proposals within variation application 13 (EPR/JP3122GM/V013) do not result in a change to the potential impacts as we have previously assessed and presented to NE and NRW under our assessment conclusions for variation applications 9 (EPR/JP3122GM/V009) and 12 (EPR/JP3122GM/V012) of this WDA permit.

For awareness, Natural Resources Wales (NRW) and Natural England (NE) and confirmed their agreements with our Habitats Regulations stage 1 and 2 assessment (Environment Agency 2022) conclusions on 20 January 2022 and 26 January 2022 respectively for variation application 9 (EPR/JP3122GM/V009).

For variation 12 (EPR/JP3122GM/V012), our Habitats Regulations (Environment Agency 2025a) and SSSI (Environment Agency 2025b) assessments were sent to NE and NRW for consultation on the 17 June 2025. NE and NRW confirmed their agreement with our Habitats Regulations and SSSI assessment conclusions on 21 July 2025.

For this variation 13 application (EPR/JP3122GM/V013), we held a technical meeting with NE on 16 December 2025 to provide an overview of the application and our indicative assessment conclusions. We then informed NE of our final conclusions on 16 March 2026 (as summarised within Environment Agency 2026).

The above decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment (NNB GenCo (HPC) 2025a) of the environmental risk from the facility as part of our determination. We have reviewed the surface water pollution risk assessment (SWPRA) submitted by NNB GenCo (HPC) and consider it satisfactory regarding the requirements for discharge activities A(i), A(ii), A(iii), I, J(i) and J(ii).

Based on our review and our existing assessments regarding the risk of toxic contamination (as we produced as part of our determinations of variations 9 and 12 for this permit), the proposal to vary the permit for discharge activities A(i), A(ii), A(iii), I and J(i) and J(ii) is therefore:

- unlikely to have any significant effects in terms of toxic contamination on the receiving waterbody (the Severn Estuary) at the points of discharge at outlets 1 and 12 (Environment Agency 2022, 2025a and 2025b).

- likely to have no predicted likely significant effects on the integrity of the European sites considered in our Habitats Regulations assessments (Environment Agency 2022 and 2025a). This is for the multiple sites within direct hydrological connectivity of the existing discharges via outlets 1 and 12, as well as those sites with designated mobile species.

- not likely to damage any of the flora, fauna or geological or physiological features which are of special interest of the sites considered in our previous SSSI assessments (Environment Agency 2022 and 2025b).

Our assessments (Environment Agency 2022, 2025a, 2025b and 2026) show that, applying the conservative criteria in our guidance on environmental risk assessment or similar methodology supplied by NNB GenCo (HPC) and reviewed by ourselves, all emissions may be screened out as environmentally insignificant with the exception of the following substances (for which the existing numeric limits determined by variation 12 will be applied as part of this variation, variation 13):

- Chlorine (Free)
- Copper (Total)
- Zinc (Total)

These parameters will be controlled and regulated via the permit conditions and limits for WDAs I and J (J(i) and J(ii)) set out below in the following sections of this decision document.

Operating techniques

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

The discharge activities I (WDA I) and J (WDAs J(i) and J(ii)) specific operating technique (OT13) will be updated in due course by NNB GenCo (HPC) prior to the commencement of the discharge of activities I, J(i) and J(ii). .

This operating technique is required to account for the discharge of additional substances within the treated effluent to be discharged from the water demineralisation plant and the CETP (following detailed design outcomes for the two plants).

The latest version draft version of OT13 will require our review and written approval under pre-operational condition 10 (PO10) within table S1.4 (as required under condition 2.4.1 of the permit). OT13 will need to reflect the segregation of effluent waste stream from WDA I to form WDAs J(i) and J(ii) and the numeric concentration compliance limit references within table S3.1 for chlorine, copper and zinc as well as the techniques and procedures for the discharge of additional process chemicals that are required to maintain the efficiency of the demineralised water plant.

Measures to ensure that the dosing rates of both DBNPA and sodium bisulphite are controlled to ensure that there is always sufficient (but not excessive) sodium bisulphite and will be included in the detailed operating documents for the water demineralisation plant (which will be incorporated into the permit as OT13 for WDAs I, J(i) and J(ii)). NNB GenCo (HPC) have stated that dosing rates will be optimised during operations by NNB GenCo (HPC) to minimise chemical use.

Pre-operational conditions

Based on the information in this variation application (variation 13), we consider that the existing pre-operational condition (as listed within table S1.3) linked to discharge activities I, J(i) and J(ii) via pre-operational measure condition 10 (PO10) must remain in the permit.

This pre-operational condition requires NNB GenCo (HPC) to submit to us for our review and written approval (at least two months prior to commencement of WDAs I, J(i) and J(ii)), a copy of the operating techniques report (OT13). Under PO10, following our review and written approval of NNB GenCo (HPC)'s submission, OT13 shall be deemed to be incorporated into the permit under table S1.2.

Emission limits

As a result of the variation application and the segregation of existing permitting effluent waste streams from within WDA I to form the newly created WDAs J(i) and J(ii), the emission limits within table S3.1 have been amended as follows:

For the existing permitted WDA I, the emission limits for chlorine (free) and total zinc have been removed from table S3.1 following the segregation of effluent to allow the site's commissioning effluent treatment plant (CETP) full capacity to provide treatment of hydrazine and/or ammonia. We have also reduced the maximum discharge rate from 70l/s to 17.4l/s within table S3.1 to reflect the change from a batched/pulsed discharge (as permitted under variation 12) to a continuous discharge regime under this variation application (as permitted under variation 13).

Due to the segregation of effluents from the existing permitted WDA I to form the additional and newly permitted WDA J(i) and J(ii), table S3.1 of the permit has been updated and now includes the following additional emission limits for WDAs I and J(i) and J(ii):

WDA I emission limits specified within table S3.1:

- an existing permitted maximum daily discharge volume of 1,500m³/day
- an amended permitted maximum discharge rate of 17.4.l/s (reduced from 70l/s due to the change from batched to continuous operation, as well as segregation of waste effluents to form WDA J(i) and J(ii))
- existing permitted suspended solids (measured after drying at 105°C) concentrations of 675 milligrams per litre (mg/l) (as a maximum concentration) and 264 mg/l (as an annual average concentration)
- existing permitted pH range of a minimum of 6.0 and maximum of 9.0
- existing limit for no significant trace present so far as is reasonably practicable of visible oil or grease

- an existing permitted maximum concentration of 15 micrograms per litre (µg/l) for hydrazine (total)
- an existing permitted maximum concentration of 271mg/l for ammoniacal nitrogen (expressed an N)
- an existing permitted maximum concentration of 102 µg/l for total copper (as Cu)
- the removal of permitted maximum concentration limits of 1,200 µg/l for chlorine (free) and 140 µg/l for total zinc (as Zn)

WDA J(i) and J(ii) emission limits specified within table S3.1 for the addition of:

- a permitted maximum daily discharge volume of 3,000m³/day
- a permitted maximum discharge rate of 34.8l/s (due to the change from batched to continuous operation, as well as segregation of waste effluents to from WDA I)
- a permitted pH range of a minimum of 6.0 and maximum of 9.0
- No significant trace present so far as is reasonably practicable of visible oil or grease
- a permitted maximum concentration of 1,200 µg/l for chlorine (free)
- a permitted maximum concentration of 102 µg/l for total copper (as Cu)
- a permitted maximum concentration of 140 µg/l for total zinc (as Zn)

These permit limits reflect the previous effluent concentrations and flows used in NNB GenCo (HPC)'s variation application and supporting SWPRA, which we reviewed and assessed within the following assessments:

- our Habitats Regulations (Environment Agency 2022) assessment for the determination of variation 9
- our Habitats Regulations (Environment Agency 2025a) and SSSI (Environment Agency 2025b) assessments for the determination of variation 12.

It is considered that the numeric compliance limits described above will prevent significant deterioration of the receiving waters within the Severn Estuary and Bridgwater Bay (waterbody identification reference: GB670807410000).

NNB GenCo (HPC) has demonstrated via SWPRA screening risk assessment (NNB GenCo HPC 2025) and supporting modelling (NNB GenCo HPC 2021 and 2024), which we have reviewed and approved, that the proposed segregation and discharge (under WDA J(i) and J(ii) rather than WDA I) of other process chemicals that are required to maintain the efficiency of the water demineralisation plant will not be environmentally significant subject to the proposed control measures that will be incorporated within operating technique (OT) OT13 via table S1.3.

Monitoring

As a result of variation application 13, the existing monitoring requirements for discharge activity I (WDA I) have not changed (although requirements for chlorine (free) and total zinc have been removed as a result of this variation).

For ease of reference, the existing permit imposes the following monitoring requirements on the operator for discharge activity I (as listed in tables S3.1 and S3.3 of the permit for WDA I):

- Existing maximum daily volume monitoring
- Existing flow monitoring
- Existing weekly operator monitoring of suspended solids (measured after drying at 105°C), pH and visible oil or grease
- Existing monthly operator monitoring of ammoniacal nitrogen (expressed as N), total hydrazine and total copper. As a result of this variation, the existing monthly operator monitoring for discharge activity I (WDA I) will no longer include chlorine (free) and total zinc.

As a result of variation application 13, the following monitoring requirements for discharge activity J(i) and J(ii) WDA I) have been included (as listed in tables S3.1 and S3.3 of the permit for WDA J(i) and J(ii)):

- Maximum daily volume monitoring
- Flow monitoring
- Weekly operator monitoring of suspended solids (measured after drying at 105°C), pH and visible oil or grease
- Monthly operator monitoring of chlorine (free), total copper and total zinc.

Reporting

The existing reporting requirements have been amended as a result of this variation.

For ease of reference, the permit imposes reporting requirements for the following parameters (with monitoring frequencies) via table S3.1 and with the reporting periods specified in table S4.1 for discharge activity I (WDA I):

- Existing maximum daily volume monitoring
- Existing flow monitoring
- Existing operator monitoring and reporting of suspended solids (measured after drying at 105°C), pH, visible oil or grease, total hydrazine, ammoniacal nitrogen (expressed as N) and total copper. As a result of this variation, the existing monthly operator reporting for discharge activity I (WDA I) will no longer include chlorine (free) and total zinc.

As a result of this variation to segregate effluent waste streams from discharge activity I (WDA I) to form discharge activity J (WDA J(i) and J(ii)), additional reporting requirements have been incorporated into the permit for the following parameters (with monitoring frequencies) via table S3.1, and with the reporting periods specified in table S4.1 for discharge activity J:

- Maximum daily volume monitoring
- Flow monitoring
- Operator monitoring and reporting of suspended solids (measured after drying at 105°C), pH, visible oil or grease, chlorine (free), total copper and total zinc.

We made these decisions in accordance with our technical guidance on monitoring available to the public on GOV.UK website.

Considerations of foul sewer

We have previously agreed with the operator's justification for not connecting to foul sewer. The facility is in a location where it is not reasonable to connect to the foul sewer.

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. A full review of the management system is undertaken during compliance checks.

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 variation.

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.

Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK and our e-consultation tool (CitizenSpace) for the public, newspaper advertising and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from: Natural Resources Wales (NRW) on 21 November 2025 in response to our consultation request dated 28 October 2025.

The response did not require any additional actions to be undertaken as part of our determination: Thank you for your consultation received by Natural Resources Wales (NRW) on 28 October 2025, seeking comments from NRW on the Environmental Permit Application (EPR/JP3122GM/V013) to vary the construction Water Discharge Activity (WDA) permit for the water management zones and effluent treatment units serving the Hinkley Point C nuclear power station construction site. We have no concerns or objections with regard to the proposed licence variation. We have no further comments or information to inform an HRA in-combination assessment.

Response received from: Natural England (NE) on 26 November 2025 in response to our consultation request dated 28 October 2025..

Brief summary of the response and issues raised: Thank you for consulting Natural England on the below. My colleague Barry Philips who previously led on consultations of this nature relating to Hinkley Point C (HPC) has recently left Natural England, I will be leading on these consultations for the foreseeable. Would it be possible to speak to the officer at the Environment Agency leading on the permit variation prior to providing NE’s response?

Summary of the actions we have taken: In response to NE’s request, we arranged a meeting to discuss this variation application with the new NE officer for the HPC project on the morning of 16 December 2025. Following our joint meeting, NE provided the response on the afternoon of 16 December 2025:

In responding to the consultation, NE has assumed that the Environment Agency (EA) is content that the appropriate models have been selected, and that their application has been quality assured. We have also assumed that the EA is satisfied that the model outputs are appropriate and sufficiently reliable to inform the non-toxic and ecotoxicological risk assessments. We understand that the EA will consult NE on addendums to the Habitats Regulations Assessment (HRA) and SSSI Assessment (Appendix 4) undertaken for Variation 12 (EPR/JP3122GM/V012) before this permit variation application (variation 13) is determined. It may be helpful to take into account the detailed advice we have provided on the EA's HRAs and SSSI Assessments produced to assess the previous applications to vary environmental permit EPR/JP3122GM.

In accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, NE expects to be consulted on any additional matters as determined by Somerset Council that may arise as a result of, or are related to, the present proposal. This includes alterations to the application that could affect its impact on the natural environment.

NE retains its statutory discretion to modify its present advice or opinion in view of any and all such additional matters or any additional information related to this consultation that may come to our attention.

Summary of any additional actions we have taken: In response to NE's consultation response dated 16 December 2025 regarding this variation (variation 13), we completed a habitats decision record in which we concluded that the submitted variation application does not require new a Habitats Regulations or SSSI/CRoW assessments (based on our previous assessments undertaken during our determination of variation applications 9 and 12 of this permit) and no new or further consultation with NE about these variations (9, 12 and 13) were required at this stage. We then informed NE of our final decision regarding variation 13 and provided a copy of our decision record on 16 March 2026.

Representations from local MPs, councillors and parish/town community councils

Response received from: Historic England (response ref: ANON-UPXN-DV4R-B dated 27 November 2025)

The response did not require any additional actions to be undertaken as part of our determination: Historic England provides advice when our engagement can add most value. In this case we are not providing comment. This should not be interpreted as comment on the merits of the application. It is not necessary to consult us on this application again, unless there are material changes to the proposals. However, if you would like advice from us, please contact us to explain your request.

Response received from: Yate Town Council (response ref: ANON-GQS2-MWAV-V)

Summary of the response and the issues raised: The notion that Hinkley C is sufficiently 'temporary' to be allowed to drop below normal permit standards is not acceptable - the impact over the life of the station is such that it must be held to normal permit standards. In relation to sewage for example, whilst it is not essential it feeds into the normal sewage system, it must be required to deliver at least the same level of sewage treatment before discharge into what is a high tidal range quasi estuary. So across the full range of environmental permits, we would oppose any dropping below the standard terms required of other operators.

Summary of the actions we have taken: No specific additional actions were required to be taken in addition to those we automatically undertake as part of our standard variation determination process. This variation application does not contain treated sewage effluent and does not apply to the HPC construction site's construction phase sewage treatment plant (CSTP) WDA permit (EPR/XP3321GD) which permits a discharge of 1,150 cubic metres per day (m^3/day) of secondary treated sewage effluent (subject to ultraviolet irradiation). As discussed and summarised above within the emission limits section of this decision document, we have included appropriate numeric compliance limits for the relevant parameters within WDAs I, J(i) and J(ii).

Representations from individual members of the public

We received one response from an individual member of the public (response ref: ANON-UPXN-DV42-B on 12 November 2025)

Summary of the response and issues raised: "Given the exemptions you have listed that you cannot consider, I can't think of anything that I can comment on apart from there being no clear description of the quantity and nature of the effluent."

Summary of the actions we have taken: No specific additional actions were required to be taken in addition to those we automatically undertake as part of our standard variation determination process. This is because we have completed the determination of the variation application for discharge activities I, J(i) and J (ii), having taken regard to the legal requirements of the Environmental Permitting Regulations 2016 and other relevant legislation. We are of the view that our decision conclusions and permit conditions are consistent with the relevant legislation, and that we have reached our decision having regard to the statutory guidance concerning the regulation of WDAs into the environment and relevant government policy.

As part of our determination for variation 13, we have included existing numeric compliance limits for total copper, total zinc and free chlorine, which reflect the

effluent concentrations and flows used in NNB GenCo (HPC)'s variation application and supporting surface water risk assessment (NNB GenCo, 2025), which we have previously reviewed and assessed within our Habitats Regulations (Environment Agency 2025a) and SSSI (Environment Agency 2025b) assessments. We have also ensured that NNB GenCo (HPC) will implement the required operating techniques and procedures (via OT13) for the other discharges that do not require numeric compliance limits.

It is considered that the numeric limits included via table S3.1 for WDAs I, J(i) and J(ii) for compliance (along with the requirements under OT13) will prevent significant deterioration of the receiving waters within the Severn Estuary and Bridgwater Bay (waterbody identification reference: GB670807410000).

During our consultation of this variation application (as discussed in detail within the consultation section of this decision document), we provided a clear summary and clear description within our GOV.uk publication, newspaper advertisement and e-consultation of the quantity and nature of the effluents proposed within NNB GenCo (HPC)'s variation application. Additionally, our GOV.uk publication and newspaper advertisements included clear web-links to our e-consultation page, which provided a summary (including page length of each of NNB GenCo (HPC)'s application documents) of NNB GenCo (HPC)'s application documents and made them all publicly available and accessible.

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