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Environment Agency

NNB Generation Company (HPC) Limited
90 Whitfield Street
London
England
W1T 4EZ

Our ref: EPR/XP3321GD/V005
Your ref:

Date: 11 August 2023

Dear Mr Holbrook

We need more information about your application and payment of the variation application charge

Application reference: EPR/XP3321GD/V005
Operator: NNB Generation Company (HPC) Limited
Facility: Hinkley Point C (HPC) construction site sewage treatment plant (STP, aka HAJ plant), Hinkley Point C, Wick Moor Drove, Near Bridgwater, Somerset, TA5 1UD

Thank you for your application received on 07/07/2023. I need to ask you for some missing information before I can do any more work on your variation application. Please provide us with completed responses to information requests 1 to 11, as detailed below. **Please send the requested information within 15 working days of this letter (by the 04/09/2023).**

Following our pre-application meeting for the proposed variation application (held on the 18/05/2023), we need to confirm if the high and medium priority pre-application review comments we provided to you via e-mail on the 26/05/2023 have been considered and incorporated into the final permit application submission (dated 07/07/2023).

We therefore have raised the following information requests listed below to ensure that we have the correct information to begin our determination of your variation application, and confirm your variation application as duly made.

For information, I have attached a copy of our pre-application review response e-mail (dated 26/05/2023) to the cover e-mail for this RFI letter. I have also attached a copy of the spreadsheet (titled: *TR581_v2_0 Marine Modellers comments 260523*) that was attached to our pre-application response e-mail for ease of reference.

Information request 1:
This request is in regard to comments previously raised at the pre-application meeting held on 18/05/2023, and as previously detailed via comment/issue EA1 (high priority), as we raised in our pre-application review comments to you via e-mail on 26/05/2023).
To enable us to determine the proposed permit variation, we need the total DIN (dissolved inorganic nitrogen) profile values in addition to the ammonia values to be provided to allow us to begin our determination of the proposed application. Therefore please provide the DIN data to us in a format that will allow us to repeat the modelling in CORMIX, so that we can check and validate the proposed plume outcomes. To date, we have only received the 20mg/l ammonia (with a 12°C temperature) CORMIX files.

This information is required, as we need to understand the total DIN being discharged from the jetty from all HPC WDA permits, as we will need to complete an in-combination assessment for both our Habitats Regulations Assessment (HRA), and our Water Framework Directive (WFD) assessment. We also require the total DIN to understand the size of the plumes created.

It was also stated that CPM modelling has been previously completed, and that this has shown no impact from DIN. This supporting evidence/information also has to be submitted with the permit application, and the supporting information must also be either updated to reflect the latest total DIN, or a discussion provided of the differences in the DIN between current values and modelling included.

Information request 2a and 2b:

This request is in regard to comments previously raised at the pre-application meeting held on 18/05/2023, and as previously detailed via comment/issue EA2 (high priority), as we raised in our pre-application review comments to you via e-mail on 26/05/2023).

2a) Please confirm if the flow rates presented in your supporting information are appropriate, and that these are consistent with your initial volume/flow estimates. It was mentioned during the pre-application meeting held on 18/05/2023 that discharge volumes/flows were potentially lower than anticipated, which could impact on the concentration(s) of ammonia being discharged (e.g. lower discharge volume discharge overall but containing a higher ammonia concentration). Please ensure that any CORMIX files provided to us incorporate any of the above aspects.

2b) Please confirm if bacterial processes are operating as planned, and thus if ammonia concentrations are as expected?

Clarification on the above issues is required, as this variable can influence/change plume behavior, and we need to ensure we have fully considered these as part of our determination, and within our assessments (e.g. HRA and WFD assessments). We also need to ensure that the lowest possible discharge volume scenario has been considered for the same concentration of ammonia to ensure that the modelled results are appropriate.

Information request 3:

This request is in regard to comments previously raised at the pre-application meeting held on 18/05/2023, and as previously detailed via comment/issue EA3 (high priority), as we raised in our pre-application review comments to you via e-mail on 26/05/2023).

To allow us to begin our determination of the variation application, we require you to provide all the CORMIX files and DIN profile information (as additionally discussed via information request 1) that support the proposed increase of the current 20mg/l limit for Ammoniacal Nitrogen to 80mg/l limit that you have applied for, along with maximum temperature data (as we will need to consider the worst possible case scenario for our assessment of your proposed variation application)

However, presently we only have access to the 20mg/l CORMIX file outputs. Therefore, we require you to provide us with the 80mg/l CORMIX files and outputs, and all calculation spreadsheets used to derive the values provided in the results of your supporting information

report (reference: 101121252).

We require this information to enable us to audit and review your modelling proposals (i.e. allow us to repeat and derive and confirm for ourselves the values proposed in your application), and to support our assessment of any potential in combination effects of the combined changes to the DIN limits in both the STP/HAJ variation (via this permit variation application, reference EPR/XP3321GD/V005), as well as the proposed future DIN discharge limit variation application for the HPC main construction WDA (CWDA) permit (future application reference EPR/JP3122GM/V011)

Information request 4:
This request is in regard to Appendix A, figure 1 of TR581 v4, page 15 of 55 (page 33 of 194 of the main supporting information report PDF), as previously detailed via comment/issue EA4 (medium priority), as we raised in our pre-application comments to you via e-mail on 26/05/2023).

This time series omits site C4, but C4 is included within the figure's caption, which states "C1 to C8". Displaying all plots on top of one another makes it difficult to determine relative differences between sites. Therefore, please split out the data to allow each plot to be reviewed separately for each site.

Information request 5:
This request is in regard to Appendix A, figures 13 and 14 of TR581 v4, pages 34 and 35 (pages 51 and 52 of 194 of the main supporting information report PDF), as previously detailed via comment/issue EA5 (medium priority), as we raised in our pre-application comments to you via e-mail on 26/05/2023).

Displaying all plots on top of one another within these two figures makes it difficult to review, and to determine relative differences between sites. Therefore, please split out the data to allow each site to be reviewed individually.

Information request 6a and 6b:
Information requests 6a and 6b are in regard to Appendix A, figures 15, 16 and 17 of TR581 v4, pages 40, 42 and 43 (pages 57, 59 and 60 of 194 of the main supporting information report PDF), as previously detailed via comment/issue 6 (medium priority). As raised in our pre-application comments to you via e-mail on 26/05/2023).

6a) The scaling of these three figures needs to be improved to allow us to accurately review and assess them (as the scaling needs to be improved to match that provided in figure 3, page 18 of TR581 v4, page 35 of the main supporting information report PDF)

6b) Additionally, please also amend figures 15, 16 and 17 to include the locations of features such as the jetty and Inter-tidal/sub-tidal Sabellaria (for example, as you have displayed in figure 3). Providing this information will aid our interpretation of these figures for the determination of the variation application.

Information request 7
Information request 7 is in regard to discussions at the pre-application meeting held on 18/05/2023, and as previously detailed via comment/issue EA7 (medium priority), as we raised in our pre-application comments provided to you via e-mail on 26/05/2023. It is also in

regard to information provided within TR581 v4 on page 15.

Appendix A (TR581 v4, page 15) states: “As the discharges considered in this report are released at ambient sea temperature and are not considered to be heated…”. During the pre-application meeting we had on the 18/05/2023, it was suggested that the discharge effluent could indeed be heated (as it was mentioned that the effluent would be significantly hotter than the ambient temperature of the surrounding receiving waterbody, as the effluent would be sat/contained in pipework for a significant proportion of the working day, resulting in the effluent’s temperature increasing).

Please provide clarification on this point to address disparities related to temperature. As part of this clarification, please confirm:

- How high does the effluent discharged temperature get?
- What values have you utilised to calculate the ambient density for water receiving the discharge?
- What are the potential uplift values between the discharge effluent and ambient? Are these considered throughout the year as this will impact the mixing and buoyancy of the plume?

Information request 8

This information is in regard to the CORMIX files used for the application, as previously detailed via comment/issue EA8 (medium priority), as we raised in our pre-application comments provided to you via e-mail on 26/05/2023).

Your supporting information report states a discharge temperature of 12.5°C. However, the value used in CORMIX appears to be 12°C. Although this is a slight difference in temperature value, there is no discernible reason(s) given for why this is the case, which potentially impacts on the plume size and its shape. We therefore require you to provide explanation regarding this difference in temperature values.

Information request 9a and 9b

This information is in regard to the CORMIX files used for the application (as previously detailed via comment/issue EA9 (medium priority), as we raised in our pre-application comments provided to you via e-mail on 26/05/2023).

9a) There is a lack of wind parameter in the CORMIX simulations, please confirm your reasoning for this (for example, is this just to be conservative?). This was the answer suggested in the pre-application meeting held on the 18/05/2023. However, written clarification regarding the parameter selection is required.

9b) Please provide clarification regarding the why the manning value of 0.02 was selected for the modelling. This is required to clarify your reasoning for the selection, and to ensure we do not misinterpret your reasoning as part of our determination and supporting assessments.

Information request 10

On the 12/07/2023, we received from you via e-mail an Excel spreadsheet containing some DIN values within the spreadsheet referenced '20230712- HPC DIN Amm_N data'.

This data is also provided in Appendix C (Ammoniacal nitrogen and DIN data for Outlet 12 effluents) of the main permit variation application supporting information report as 'C.1 Groundwater and Tunnel Effluent data' (pages 185 to 193 of the main report PDF)

Our OCS marine water quality team are unsure what context this data has. Therefore, please provide context and clarification regarding this data, and how this data is applicable to the permit variation assessment. This clarification will allow us to more accurately review and better interpret this data.

Information request 11a to 11c

Although there seems to be adequate information with regards to the Sabellaria and Corallina features of the Severn Estuary Special Area of Conservation (SAC), there does not appear to be any consideration of this designated site's other qualifying features. This information is required to allow screening of likely significant effect (LSE) to identify those permissions, plans or projects (PPP) that are likely to have a significant effect on the features of a European site.

The main variation application support document (ref: 101121252) mentions the Severn Estuary SAC with regards to the Sabellaria and Corallina reef features, but does not provide any details regarding the other wider qualifying features that this European site supports.

11a) We therefore require you to provide details of the other protected site features for the Severn Estuary SAC, as well as the wider qualifying features of the Severn Estuary SPA and Ramsar designations, and how the features of these European designated sites have been considered in terms of source-pathway-receptor connectivity with the proposed discharge.

11b) To support your response to 11a, please provide supporting figures/plots of the worst case modelled discharge plume to allow the footprint of the pollutants to shown in relation to the features of these European sites (i.e. where these features are located in comparison to the modelled plume(s)). This will also allow the distance (pathway) between the discharge point (source) and other features (receptors) of the designated sites to be determined.

11c) Please confirm if you have considered if there are any other sites that should be considered from a Habitats Regulations perspective due to migratory species using the Severn estuary to reach their SAC designated river (e.g. River Wye/Afon Gwy, and/or River Usk/Afon Wysg SACs), or if the estuary is used as functionally land.

Confirmation details of where to send the requested information and the required timescale for your response

Please send the information, quoting the above application reference, to:

Email addresses (please send your response to both listed below):

- [redacted] e-mail address: [redacted]
- Integrated Permitting Services (IPS) e-mail address for water discharge activity permit applications: PSC-waterquality@environment-agency.gov.uk

Postal address (if unable to send via e-mail):

- Integrated Permitting Services
- Quadrant 2
- 99 Parkway Avenue
- Parkway Business Park
- Sheffield
- S9 4WF

Please send the requested information and payment within 15 working days of this letter (by 04/09/2023).

Additionally, the variation application fee of £8.163 has yet to be paid (broken down as below based on our guidance available on GOV.uk):

- Substantial variation fee (table 1.3, reference 1.3.11): £6,884
- Additional charge: £500 for advertisement of the variation application (see 10. (a) on page 13)
- Additional charge: £779 as a habitats assessment will be required (see 10.(iv) on page 14).

Details of how to pay are given in Part F of the application form, and as additionally explained in the attached e-mail from our IPS water quality team to Chris Fayers dated 04/08/2023 (a copy of this e-mail is also attached for your awareness).

If we do not receive the information within 15 working days we will return your variation application.

If we do receive the requested information and payment within 15 working days, we'll continue to check your application. We'll check to see if there's enough information for the application to be 'duly made'. Duly made means that we have all the information we need to begin determination. Determination is where we assess your application and decide if we can allow what you've asked for.

We'll let you know by letter whether your application can be duly made. If it can't be duly made, we'll return your application to you. If you have any questions please phone me on [redacted] or email [redacted].

Yours sincerely

[redacted]
Senior Permitting Officer (National Infrastructure Permitting)
National Permitting Service (Part of National Operations)

creating a better place

Environment Agency, Richard Fairclough House, Knutsford Road, Warrington, WA4 1HT