Date: 27 October 2020
Our ref: 313466
Your ref: APP/EPR/573

Kevin Gordon
Environment Appeals Administration
The Planning Inspectorate
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BY EMAIL ONLY

Dear Mr Gordon

NOTICE OF APPEAL MADE UNDER THE ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016 – REGULATION 31
HINKLEY POINT C POWER STATION, HINKLEY POINT, SOMERSET TA5 1UD

Thank you for your consultation dated 07 October 2020. The following constitutes Natural England's formal response.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development.

This letter represents the advice of Natural England in respect of those protected sites that lie wholly or partly within England. Our fellow statutory nature conservation body, Natural Resources Wales, will be advising separately on the likely effects on designated sites that lie either partly or wholly within Wales.

Background

The Hinkley Point C project is proximate to a number of designated sites and has the potential to have effects on these, and other such sites, further afield. These include a number of Sites of Special Scientific Interest (SSSI), which are afforded a high level of protection under the Wildlife and Countryside Act (1981) (as amended). The most relevant SSSIs within England are: Severn Estuary SSSI; Upper Severn Estuary SSSI and River Wye SSSI.

Some of the SSSIs have additional protection as European sites - either Special Areas of Conservation (SACs) under the Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora) or Special Protection Areas (SPAs) under the Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds) (the entire suite of SACs and SPAs being collectively known as the Natura 2000 network). The most relevant European sites within England are: Severn Estuary SAC and Severn Estuary SPA. The Severn Estuary is also designated as a wetland of international importance under the Ramsar Convention.

The conservation of the most highly protected nature sites, like these, is vital to the goals within the Government's 25 year environment plan. It is also central to Natural England's statutory purpose. We have an interest in any proposal with potential to cause harm to such sites.

The potential for harm to the fish features is of particular concern in relation to the appeal proposal. Migratory fish species, including salmon, shad and lamprey species are notified features of a number of the SSSIs mentioned above. Migratory fish are also qualifying features of the Severn Estuary SAC and Ramsar site. The outstanding estuarine fish assemblage is a qualifying feature of the Severn Estuary Ramsar site and a sub-feature of the estuary feature of the Severn Estuary SAC.

Natural England is of the opinion that the qualifying migratory fish species are currently in unfavourable condition due to anthropogenic pressures, such as physical barriers to migration.

History of involvement

Natural England made formal responses to the Environment Agency (EA) following public consultation on the appellant's application (EPR/HP3228XT/V004) to vary the Water Discharge Activity environmental permit on 7 June 2019 and 25 July 2019 (copies attached).

The appellant had recognised that under the Conservation of Habitats and Species Regulations 2017 (as amended) (the "Habitats Regulations") there would be a need for the decision maker to determine whether acoustic fish deterrent omission may affect the protected features of European sites and that the decision maker would need to carry out a Habitats Regulations Assessment (HRA).

As part of the application process, the appellant submitted documents by way of a shadow HRA. We noted a number of shortcomings, including failure to take account of some of the most recent science and evidence. For instance, the well-established mismatch that often occurs between boundaries of fisheries management areas and actual biological population structure was not accounted for.

The EA subsequently worked on its own HRA. Natural England was invited, with Natural Resources Wales and the Marine Management Organisation, to join in technical discussions. While we are a statutory consultee only at the Appropriate Assessment stage we were willing to engage early to reduce the risk of later delay.

We participated in a series of informal technical meetings and reviewed a series of draft technical papers prepared by the EA. We focussed on the approach to assessment rather than duplicating detailed workings.

The EA addressed shortcomings in the shadow HRA and developed an enhanced methodology. Before the formal preparation of the HRA ended, with the deemed refusal of the permit application, on 4 August 2020, we were satisfied with the overall direction of the ongoing assessment.

The EA has continued to work on its HRA on an informal basis since the deemed refusal. We are being consulted on the final draft version at the time of writing.

Appellant's statement of case

Natural England does not agree with the appellant's assertion that the assessment should be limited to the Annex II fish species listed on the SAC citation.

The Severn Estuary Ramsar designation specifically references other migratory fish species (salmon, eel, sea trout and Allis shad). Ramsar sites have the same level of same protection at a policy level as European sites (see, for example, Planning Inspectorate Advice Note 10, 2017). It is our view that the effects on these fish species should be assessed in the HRA in accordance with that policy.

The notable assemblage of estuarine fish comprises more than 100 species. It is our view that the assessment of the species comprising the assemblage is also necessary to fulfil the requirements of the Habitats Regulations. In the case of the SAC, it would not be possible to assess the implications for the estuary feature as a whole without also understanding the impacts upon its dependant sub-features. This view is entirely consistent with our published advice.

Natural England does not agree with the appellant's position on the EA's initial analysis and provisional conclusions reached prior to deemed refusal.

Allowing for the fact that the interim results and provisional conclusion were drawn from an ongoing assessment, we do not consider they were unreasonable. We are satisfied that the EA exercised sound scientific judgement and, in accordance with its legal obligation as regulator undertaking the assessment, took into account the best and most recent science and evidence.

Recommendation and further assistance

In accordance with the precautionary nature of the Habitats Directive and European case law, for the appeal proposal to be allowed, it will be necessary for the competent authority, to be certain beyond reasonable scientific doubt about the absence of adverse effects upon the integrity of European sites.

On the balance of the considerable evidence available to date and, in particular, the EA's ongoing HRA, we are of the opinion that there remains a substantial amount of reasonable scientific doubt as to the absence of such effects.

Unless scientific evidence emerges, through the course of the Inquiry, that dispels all reasonable scientific doubt with respect to each of the qualifying features of each of the European sites affected, our recommendation is for the appeal to be dismissed and the environmental permit variation refused.

We are mindful the Inspector may decide that it is necessary to examine the case for derogation under Article 6(4) of the Habitats Directive. In that circumstance, we are willing to offer advice, in line with the Defra guidance on this subject (August 2012). In principle, we are of the view that there may be some compensatory measures that could be sufficient to maintain the coherence of the Natura 2000 network for, at least, some of the qualifying features in question.

We are also mindful that the Secretary of State is now the competent authority for Habitats Regulations purposes. We are confident the final version of the EA's HRA will be of considerable assistance in this regard. We are willing to advise the Secretary of State/Inspector on HRA matters as may be needed.

If you have further questions regarding our response to this consultation, please contact David Westbrook, Senior Adviser, Wessex, on 02080262316 or at david.westbrook@naturalengland.org.uk

Yours sincerely,

Matthew Heard
Area Manager, Wessex

Attachments:

(i) NE's consultation response to the Environment Agency (7 June 2019)
(ii) Annex 1 to the above (7 June 2019)
(iii) NE's consultation response to the Environment Agency (25 July 2019)

Date: 7 June 2019
Our ref: 276775
Your ref: EPR/HP3228XT/V004

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Dear [redacted],

Natural England's response to a consultation on an application for a variation to the Hinkley Point C Operational Water Discharge Activity Environmental Permit (EPR/HP3228XT/V004) to remove the requirements related to the Acoustic Fish Deterrent (AFD) system

Facility: Hinkley Point C Power Station

Location: Hinkley Point, Bridgwater, Somerset, TA5 1UD

Operator: NNB Generation Company (HPC) Limited

This reply comprises our statutory consultation response under the provisions of Article 10 of the Town and Country Planning (General Development Procedure) Order 1995, Section 28 of the Wildlife and Countryside Act 1981 (as amended), the Environmental Impact Assessment Regulations 2017 and the Conservation of Habitats and Species Regulations 2017.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Thank you for your email of 15 March 2019 in which you asked Natural England for comments on the application detailed above, and your subsequent email of 13 May 2019 in which you provided revised and additional documents to support the application.

Our detailed comments are attached to this email (Annex 1).

The key points are as follows:

1. The information presented in the documents to support the application that have been provided to date is not sufficient to remove uncertainty over the risk that the omission of an Acoustic Fish Deterrent (AFD) system would adversely affect the integrity of the Natura 2000 network of European Sites. At this stage, Natural England cannot support or disagree with the conclusions reached in the Shadow Habitats Regulations Assessment (sHRA).

2. The quantitative assessment of the potential impact on fish populations that may be caused by omission of an AFD system relates to the spawning stock biomass (SSB) of fish stocks, not populations of species notified as qualifying features of SACs (Special Areas of Conservation). An analysis of fish stock data within the boundaries of SACs will be necessary to investigate the risk that the omission of an AFD system may pose to the integrity of the Natura 2000 Network of European Sites.

3. We support the principle applied in the sHRA that the potential risk of harm to piscovorous birds and marine mammals notified as qualifying features of the European Sites scoped into the assessment should only be assessed in detail if likely significant effects on the fish species they prey on are identified and cannot be avoided or mitigated. For such an approach to be valid, the quantitative assessment of the risk to fish populations posed by operation of the cooling water intake without the use of an AFD system must be robust.

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Natural England 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.

Yours sincerely

Barry Phillips
Natural England
Somerset, Avon & Wiltshire

Date: 25 July 2019
Our ref: 287775
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Natural England's response to a consultation on an application for a variation to the Hinkley Point C Operational Water Discharge Activity Environmental Permit (EPR/HP3228XT/V004) to remove the requirements related to the Acoustic Fish Deterrent (AFD) system

Comments on:

Cefas TR493 Report: The effect of not fitting an AFD system at HPC on the operation of the HPC FRR systems (Particle tracking of impinged Sprat). 2019

Cefas TR456 Report: Revised Predictions of Impingement Effects at Hinkley Point C. 2018. Edition 2

BEEMS Scientific Position Paper SPP071/S: Shad (*Alosa fallax* and *Alosa alosa*) impingement predictions for HP C. 2019. Edition 3

NNB-308-REP-000722: Updated Report to Inform the Habitats Regulations Assessment. Version 3.0

Facility: Hinkley Point C Power Station

Location: Hinkley Point, Bridgwater, Somerset, TA5 1UD

Operator: NNB Generation Company (HPC) Limited

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Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Thank you for your email of 28 June 2019 in which you asked Natural England for comments on a new report (Cefas TR493) submitted by NNB GenCo to support its application to remove the requirement for an Acoustic Fish Deterrent (AFD) as part of a Fish Recovery and Return (FRR) system.

Natural England's marine fisheries specialist has reviewed the new report along with revised versions of the application documents submitted previously (please see the list at the head of this letter).

Attached to the email containing this letter is an updated issues tracking spreadsheet in which previous comments have been reviewed and updated, and comments on new documents submitted since the previous consultation have also been recorded. More detailed comments on certain aspects of the assessment are also given below.

Scale of the Assessment

A number of the marine fish species have been assessed at the level of the ICES SSB used for stock assessment. Whilst these SSBs are useful for management of commercial stocks, they are not necessarily appropriate for assessing impact to assemblages of fish at a scale that relates to the Severn Estuary SAC of which they are a feature. Similarly, whilst comparisons with landings in the absence of SSB data may be more precautionary than using the SSB, these are typically international landings related to the commercial SSB in question, so may still underestimate impacts at the level of more local populations. There is evidence in support of local population or subpopulation structure within a number of the species assessed using these approached for population estimates. Because of this, Natural England advises that the best available evidence has not been used in these assessments and we therefore cannot support or disagree with any of the conclusions drawn within TR456 or those brought through to the sHRA at this stage.

Finer population structure is apparent in the following species which have been assessed using these approaches:

Cod (*Gadus morhua*)

Cod have been assessed using a broader SSB than that in the assessment made in support of the original project in TR148. The only reason presented in support of this change is that no new evidence was found supporting the artificial local SSBs used in TR148. However, there is new evidence from the intervening period that indicates finer population structures in cod in the area of interest for this assessment (Neat *et al* 2014). There is also significant evidence of finer scale population structure in cod elsewhere in UK waters (e.g. Heath *et al* 2014; Svedang *et al* 2010) and indications that use of stock-based SSBs have masked such sub-population trends (Holmes *et al* 2014).

Whiting (*Merlangius merlangus*)

As for cod, whiting have been assessed using a broader SSB than that in the assessment made in support of the original project in TR148. The only reason presented in support of this change is that no new evidence was found supporting the artificial local SSBs used in TR148. Recent research indicates that whiting hitherto considered as one unit stock for the purposes of management would be better considered in terms of the smaller distinct subpopulations which are better supported by the biological evidence available (de Castro et al 2013; Holmes et al 2014). This evidence pertains to ICES VIIb+c, but TR456 also uses the closer ICES VIIe-k, an area of similar size in which it would be reasonable and suitably precautionary to assume such subpopulations also exist.

Blue whiting (*Micromesistius poutassou*)

The assessment for blue whiting uses the largest stock assessment unit, covering much of the North East Atlantic region. Evidence from otoliths of this species indicates that the stock is split into at least two component populations (Keating et al 2014).

Plaice (*Pleuronectes platessa*)

Juvenile plaice display homing behaviour and site fidelity to their chosen nursery grounds (Burrows et al 2004, Gibson et al 2011) and can be strongly classified using otolith microchemistry to their specific nursey grounds (Marriott et al 2016). This means that whilst the SSB unit used for this assessment is relatively small (ICES VII f+g), it may still underestimate the effect of year on year impact of the impingement on juveniles using the estuary as their nursery.

Bass (*Dicentrarchus labrax*)

Bass in Welsh waters fall into two sub-populations using stable isotope signatures and it is likely that the south Welsh population is a distinct resident population owing to geographic restriction and the proximity of feeding and spawning grounds (Cambie et al 2016). Acoustically tagged bass in Irish waters show limited movement and strong feeding site fidelity post tagging (O'Neill 2017). There is recognised potential that bass return to their nursery areas, on the basis of repeated records of adult bass at discrete locations year to year (Pawson et al 2008). Whilst there does not appear to be any fine scale genetic structuring in the bass population in UK waters (Coscia and Mariani 2011), the outlined behavioural and ecological trends may result in a more heterogeneous population structure as bass continue to colonise UK waters.

Herring (*Clupea harengus*)

Herring population structure is best described with the metapopulation concept, in which an array of local populations may be linked by varying degrees of gene flow (McQuinn 1997). Such local populations have been reported historically in Milford Haven (Clarke and King 1985) and early results of ongoing studies on herring in the Bristol channel indicate that there may be more than one other stock present in the area, separate from the Milford Haven population (E. West Devon and Severn IFCA pers. comm.). Therefore impacts are unlikely to be evenly distributed across the entire metapopulations and consideration of potential effects on local populations would be more appropriate. In a study into temporal trends in spawning component diversity of Celtic sea herring, it was shown that different spawning components such as these responds differently to varying pressures (Harma et al 2012). The authors concluded that such life-cycle diversity within stocks creates resilience within the overall metapopulation and that these smaller components should therefore be monitored and preserved.

The above is far from a comprehensive review of all evidence around finer population structure for all the relevant species. However, it makes clear the fact that finer scaled population structure is of concern for many of the species and on this basis, many of the assessments presented are likely to be underestimating the impacts to the finer population structures.

Reduction Factors

Use of LVSE intake heads

The original impingement assessment (HPC-NNBPEA-XX-000-RET-000123) states that "Because of the usual high water turbidity at Hinkley Point and the consequent absence of visual clues, **any mitigating effect of the low-velocity intake is only to be realised if it is combined with some of artificial stimulus (e.g. an acoustic fish deterrent) to induce fish to swim away from the intake structure**. Equally however, an acoustic fish deterrent in unlikely to be effective on its own if the intake velocity exceeds the swimming capabilities of the fish. For these reasons the low-velocity intake and AFD need to be considered as a combined mitigation measure" (emphasis added).

- Reduction factor from the use of LVSE alone in TR456 is based on reduction of intercept area (due to LVSE) and on capping the intakes (64.6% or 89.15% for pelagics = entrapment risks of 0.354 and 0.1085).

- Reduction factor for AFD + LVSE in original assessment is based upon Doel nuclear power station trial of an AFD (Maes et al 2004), plus crude assumption that the impingement at HPC would be the same per cumec as HPB, then scaled up for the greater abstraction at HPC. However, this means that some species have a higher risk of entrapment *with the AFD fitted* than without i.e. the methods for determining entrapment risk are not consistent with one another.

- Further, it is "noted by the international experts that there is generally a non-linear relationship between intake flow and impingement numbers, with a doubling of flow more than doubling impingement numbers" (EA 2019), thus the assumption that the number of fish impinged per cumec will remain constant for the higher flow rates at HPC is not evidence based and insufficiently precautionary.

- The mitigating effect of the LVSE (i.e. reduced effective intercept area) depends upon the AFD provoking a behavioural response from fish in its vicinity, so there is a risk that fish will still be caught as they have no stimulus to swim away from the intake.

- Therefore, whilst the reduction in intercept area would seem appropriate for fish *actively swimming away* from it, this cannot be assumed to be the case without an AFD and the reduction factor should therefore be more precautionary than simply scaling by the intake area.

- At the least an assessment of how well the LVSE would be expected to work with and without an associated AFD should have been provided, given the basis outlined above, upon which the original permit and DCO was granted. The current assessment looks like it is making an assumption that the LVSE does not need an AFD for the full effect to be realised.

- Further, the assumption that each opening on the intake only presents 2 2x2m zones of risk at either end of the intake should not be made. Without and AFD deterring fish, they should not be assumed to always swim away from the side facing parts of the intake, even if they would encounter these parts of the intake less frequently than the tide facing high risk zones.

- If the highest risk of entrapment is in relatively very small zones at either end of the intake head, as this approach implies, the feasibility of a much reduced AFD array to guide fish away from these zones only should be investigated as this could provide much of the benefit of a full array with fewer of the drawbacks in terms of cost and safety risk of maintenance.

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Yours sincerely

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