

Response ID ANON-AWF5-UY7A-S

Submitted to TA5 1UD, NNB Generation Company (HPC) Limited, EPR/HP3228XT/V004: environmental permit consultation
Submitted on 2019-07-25 10:27:29

Seeking your views

1 Please tell us if you are responding as an individual or on behalf of an organisation or group.

On behalf of an organisation or group

Name of Individual, Organisation or Group:

Holford Parish Council

Other:

2 What is your email address?

What is your email address? :

clerk@holford-pc.gov.uk

3 Can we publish your response? We will not publish any personal information or parts of your response that will reveal your identity.

Yes

If you do not want us to publish your response, you need to tell us why. :

4 Please provide your comments on the environmental permit application received from NNB Generation Company (HPC) Limited

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We would draw your attention to the following:

There appears to be no justification nor evidence provided by the company as to why a planned installation of AFD is now found to be unnecessary. This feature formed an important part of the application process and planning was granted that included such a requirement. For AFD systems acoustic modelling is an essential step in the design process to achieve an effective but confined sound field and this must have been carried out as part of the HPC planning process leading to its inclusion in the original planning application.

The data provided by the company on impingement levels at Hinkley are based on the much lower water cooling (WC) intake requirements of Hinkley B. The planned water intake is also a considerable distance from the shoreline and so fish impingement and entrainment cannot be compared nor calculated accurately.

Very little recent research on coastal power station cooling water intake has been carried out due to the reduction in new build operations and as a result there is no justification to ignore existing recommendations under the 'Cooling Water Options for the New Generation of Nuclear Power Stations in the UK', SC070015/SR3. Indeed, the increase in water temperature around our coastline, especially in estuarine environments, which includes the sensitive area of Bridgwater Bay, indicates that even greater consideration should be given to marine life if only to avoid unplanned shutdowns.

An acoustic fish deterrent system is not a complete solution but certainly reduces the impact on a wide variety of marine life.

Relevant extracts from SC070015/SR3 are included below.

- To meet Best Practice, the intake should be fitted with an acoustic fish deterrent (AFD) system (Section 6.1.5).

- Table 6-6 Deflection efficiencies reported for the acoustic fish deflection system at Doel nuclear station (Maes et al. 2004)

Fish species Deflection efficiency ('on' versus 'off')

Statistical significance

Herring (*Clupea harengus*) 95% P<0.001

Sprat (*Spratus sprattus*) 88% P<0.001

Smelt (*Osmerus eperlanus*) 64% P=0.004

Bass (*Dicentrarchus labrax*) 76% P<0.001

Flounder (*Platichthys flesus*) 46% P=.028

Gobies (*Pomatoschistus* spp.) 50% P>0.05 (NS)

- Neither the AFD nor Fish Recovery and Return (FRR) systems used in Britain are capable of protecting small fish of less than around 30 mm in length, which are vulnerable to entrainment.

- Mitigation techniques to reduce losses to impingement have progressed considerably in the past decade. At Shoreham CCGT station, which is fitted with an AFD system, the annual impingement rate averaged 3.8 kg per 106m³, the lowest rate recorded for any UK station (see Figure 6-5). Combinations of techniques, including use of velocity caps (offshore intakes), AFD and FRR systems and other technologies that will be considered for the next generation of stations (LVSE

intake designs, strobe light deterrents) should further reduce losses to impingement

- Direct cooling is still the most common method on Britain's estuaries, as large tidal fluxes provide efficient heat dispersal. However, estuarine locations are more sensitive than open coastal sites for three reasons. First, they represent important nursery grounds for many fish species such as sole and bass, and any impacts will have implications for the whole stock; secondly, they act as migration corridors for diadromous fish species, including salmon, sea trout, eel, shads, lampreys and smelt, as well as the young of various other fish species. Finally, estuaries are more sensitive to summer heat build-up, as flushing rates are lower than on the open coast and also large intertidal areas absorb solar radiation.

5 If you have any documents or images to attach to your response, please upload them below

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