

Update No. 19

Marine Licence Application ORDML145 Swansea Bay Tidal Lagoon

Formation of Fisheries Impact Levels Submission of New Information utilising Monte Carlo Analysis

On 25th November 2016, the NRW Permitting Service confirmed our position to the applicant regarding the potential impact to fish attributed to the lagoon turbine strike. The applicant subsequently made an additional evidential submission on 22nd December 2016 with an outline proposal using alternative modelling techniques. The applicant requested that NRW Permitting Service consider changes to the agreed approach including input parameters in the ADZ model, and the use of an additional statistical analysis of the modelling output.

As this submission did not contain enough information to inform a determination, the NRW Permitting Service wrote to the applicant on 23rd January 2017 informing them of potential options for determination. The Permitting Service outlined that the determination process could not proceed until the applicant confirmed which option they wished to take.

On 7th February 2017, the applicant confirmed they wished to submit a detailed Monte Carlo analysis in support of their application. A Monte Carlo analysis allows each input parameter to consist of a potential range, rather than a single 'realistic worst case' input for each parameter (as utilised by the previous modelling), allowing an estimate of the probability that the real-life fish impact would be below the modelled impact.

In April 2017, following an assessment of appropriate certainty values, NRW Permitting Service informed the applicant and our technical advisors that fish species protected under Annex II of the Habitats Directive, or which are designated features within a protected site, required a 99% certainty value (99th percentile of the Monte Carlo model), these being Atlantic salmon, shad and lamprey. Eel and sea trout also required a 99% certainty value. All other fish species required a 95% certainty value. These species are: sand eel, herring, cod, whiting, sole and bass.

The applicant submitted further information to support their application on 30th June 2017. This consisted of:

- a. a covering summary letter
- b. Addendum 1 – Monte Carlo analysis of alternative draw zone models
- c. Addendum 2 – Turbine avoidance behaviour of fish
- d. Addendum 3 – STRIKER V predicted fish injury outputs with Monte Carlo simulation
- e. A report to inform the Habitats Regulation Assessment (HRA)
- f. RBMP (River Basin Management Plan) Cycle 2 Review and River and Transitional Water Body Fish Quality Element Compliance Assessment
- g. A response to NRW's request for details of WFD cumulative effects to be assessed

- h. A report to inform the Water Framework Directive (WFD) assessment
- i. TLSB responses to NRW and Cefas comments on the previous model submission
- j. A Statement of Understanding with regards to fisheries
- k. Spreadsheet models containing data to support Addendum 1.

NRW Permitting Service reviewed the submission and on 10th July 2017 sent the documents to NRW Technical Experts, Cefas, Natural England and the Environment Agency. We also sent it to any party identified during the previous public consultation (July-September 2016) as having an interest in the fish impacts; this included Pontardawe and Swansea Angling Society (PASAS). This consultation will run for a minimum of 6 weeks; comments have been requested to be submitted by 21st August 2017. However, this may need to be extended by several weeks due to the extent and complex nature of the new information so that these parties have an appropriate opportunity to comment on the evidence.

We have already received initial representations from Cefas and NRW Technical Experts that the ability to edit the spreadsheets is required to test the robustness of the model. The spreadsheet models supplied to support Addendum 1 contain several locked and password protected cells, thus preventing this data from being scrutinised.

NRW Permitting Service has informed the applicant of this issue and that it will compromise the consultees' ability to provide a full and proper consultation response. It also creates a very high risk of causing further delays to the determination process. To date, this matter has not been resolved with the applicant but we remain in contact with them, pressing for the model to be unlocked so the technical experts can undertake the assessment.

If the submitted information cannot be appropriately assessed, NRW Permitting Service would consider that the submission cannot be accepted. If this is the outcome, NRW Permitting Service will revert to the most recently assessed position on fish impacts, i.e. those of November 2016. If the new information is eventually assessed, NRW Permitting Service will come to a view on the appropriateness of the assessment of the impacts on fish species.

Once a view of the evidence submission has been formed by the Permitting Service our Habitats Regulations Assessment (HRA), Water Framework Directive Assessment (WFD) and EIA Consent Decision will be updated accordingly. As legally required, the Permitting Service will then consult NRW Technical Experts and Natural England on the updated HRA. The Permitting Service will also consult NRW Technical Experts upon the updated WFD Assessment. These assessments will identify the potential need for additional WFD 4(7) case(s) and HRA IROPI case. If these assessments are required, information will be sought from the applicant to enable NRW Technical Experts, and potentially Natural England, to compile these cases. Should this occur, this will add a significant number of months to the determination timescale. Welsh Government will be notified through standard procedures should it become apparent that IROPI may be necessary.

It is anticipated that this aspect of the process may take several months following the close of consultations. This timescale is dependent upon the comments raised following consultation.

A very detailed plan (that we share and discuss regularly with the company) has been produced to illustrate the full range of potential steps in the process that will need to be concluded in order to complete the determination of this application. It also highlights predicted timelines which currently indicate a completion date of August 2018 if all steps (in the plan) need to be undertaken for this application and no additional steps due to the submissions are found to be necessary. However, if the current difficulties that we are experiencing with the new information are not resolved with TLSB promptly then this will cause further delays to the timeline.

NRW continue to work with the applicant, including throughout fortnightly process catch up meetings with the Permitting Service and the provision of technical advice to inform the applicants' submission from our Technical Experts.