



## Wylfa Newydd Project

### Horizon's Responses to ExA's Further Written Questions

PINS Reference Number: EN010007

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12 February 2019

Revision 1.0

Examination Deadline 5

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

ExA Ref.	Question	Horizon's Response to Question
Q2.5.7	<p>In relation to the use of the 'red' and 'amber' noise levels described in REP3-048, could the Applicant:</p> <p>1) Explain how the red and amber noise levels would be defined?</p> <p>2) How would the amber noise level be defined to ensure that there would be enough time to take action before the red noise levels are reached?</p>	<p>The following text describes how the red and amber noise levels have been and will be defined.</p> <p>The red noise levels are already defined. That is, the Technical Note indicating how Horizon would meet committed noise levels [REP3-048], sets out proposed noise thresholds that will not be exceeded during the works. These are the 'red' noise levels:</p> <ul style="list-style-type: none"> <li>• During the tern breeding period (as defined in the CoCPs) during the Main Construction phase – <ul style="list-style-type: none"> <li>- blasting will only be undertaken when the predicted blast noise at the colony (taking account of weather conditions) will be less than 60dB or daily ambient noise at the colony (whichever is higher);</li> <li>- day-time construction noise at the colony will not exceed 59dB <math>L_{Aeq, 1-hour}</math>;</li> <li>- during night time maximum construction noise at the colony will not exceed 43dB <math>L_{Aeq, 1-hour}</math>.</li> </ul> </li> <li>• During a four-week establishment period for the first two years of construction, blasting and day time construction noise at the colony will not exceed than 55dB <math>L_{AF,max}</math> or the daily ambient noise at the colony (whichever is higher).</li> </ul> <p>The Technical Note covering baseline noise at Cemlyn Bay measured average noise at 49dB.</p> <p>For amber noise levels, it is proposed that Horizon will ensure that appropriate site management procedures are developed and implemented and that amber noise levels will be agreed with NRW prior to the commencement of construction activities. According to the Technical Note on noise commitments [REP3-048] amber levels will be noise levels sufficiently below the agreed red threshold to enable mitigation action to be taken before an exceedance occurs.</p> <p>Noise monitoring will be conducted both at the tern colony and at any intermediate control receptors that are considered necessary (currently six noise monitoring positions arranged</p>

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		<p>around the site are proposed, which will make it easy to identify what noise is being created by different portions of the site). Intermediate monitoring points are normally established at locations closer to the noise source than the actual receptor and will provide additional noise data to support the early identification of potential problems and support early management interventions aimed at preventing any noise exceedance at the agreed receptor point.</p> <p>For construction noise (not blasting), because the noise levels described above work on a logarithmic scale and will be derived from hourly averages, it is Horizon's view that there will be sufficient time once noise levels 2dB below the red thresholds are met for an adequate response to be provided. At the very least, in this circumstance and for construction noise, if a 57dB <math>L_{Aeq, 1-hour}</math> amber threshold is met, the construction team would need to respond well within the next hour.</p> <p>For blasting noise (which will be monitored for each blast in isolation), if higher noise levels than expected are monitored at the colony, this would be able to be resolved (for example, through the use of smaller blasts) before the next blast occurs. Once the works are established and blast noise / response records populated, the team will be able to readily predict noise at the colony based on conditions and modify this as required for each blast.</p> <p>Regarding the use of hourly averages, noise levels in the environment are continuously variable, and there are already frequent loud events (e.g. jets overhead) which could cause a short-term average noise level to exceed the amber or red threshold. The shorter the averaging time, the more likely this is to happen and, therefore, the more 'false alarms' there would be. Hence the proposal to use hourly averages, which is considered to provide a reasonable balance between protection and practicality.</p> <p>The approach could also be designed to include a feedback loop so that if the chosen amber values are overly conservative (or not conservative enough) they could be adjusted.</p> <p>See also Horizon's response to Q5.2.12.</p>
Q2.5.10	Without prejudice to the ExA's final	<ul style="list-style-type: none"> <li data-bbox="884 1308 2030 1334">In response to this request, and without prejudice to Horizon's position that it is not</li> </ul>

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	<p>recommendation, please provide the following in relation to the Angelsey Terns SPA:</p> <p>i) The reasons that there would be no alternative solutions and imperative reasons of overriding public interest to carry out the proposed development.</p> <p>ii) An update on the development of compensatory measures for the SPA.</p>	<p>required or the Examining Authorities final recommendation regarding adverse effect on site integrity (at Stage 2 of the HRA process), Horizon has prepared an Assessment of Alternative Solutions (which represents Stage 3 of the Shadow HRA process) and an Imperative Reasons of Overriding Public Interest (IROPI) Report (Stage 4 of the Shadow HRA process). These documents have been submitted in parallel with this response at Deadline 5.</p> <ul style="list-style-type: none"> <li>• In addition, Horizon have provided at Deadline 5 a report on progress in respect of compensatory sites and the development of compensatory measures that Horizon has provided at Deadline 5.</li> </ul>
Q2.5.12	<p>What mechanisms would be used to decide which site activities would stop to reduce noise levels?</p>	<p>As set out in the Technical Note indicating how Horizon would meet committed noise levels [REP3-048], if an amber threshold is breached (see Horizon's responses to FWQ 2.5.7 and 2.5.13), the Site Manager will determine when and what action needs to be undertaken on site; based on an open line of communication with the Ecological Clerk of Works responsible for monitoring noise levels and/or the professional colony observers. Relevant protocols will be established in this regard (as set out in the response to Q2.5.7).</p> <p>The following mechanisms which are standard practise for large scale infrastructure projects are available to the Site Manager will include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• plant/equipment substitution;</li> <li>• adjusting the scheduling of the works;</li> <li>• adjusting the intensity of the works;</li> <li>• adopting alternative construction methodologies; and</li> <li>• temporary relocation of certain activities.</li> </ul> <p>Significantly, the options available to the Site Manager typically will be numerous and he or she will determine which machinery or activities need to be altered or stopped (in order to reduce noise levels at the colony to below response thresholds) based on their expert knowledge of the site and the activities taking place (for which he or she will have information on their acoustic signatures and distance from the colony) and taking account of Health &amp; Safety and environmental risk appropriately.</p> <p>This will be informed by a detailed list of all plant and equipment being used on the site that</p>

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		<p>will include data on operating noise and emissions. Where a contractor proposes to change a plant type or increase the numbers of plant operating in a specific area, Horizon will assess the noise impact and risk of the thresholds being breached. This information shall be maintained and input into the established noise models to provide an additional means of informing the site of potential issues.</p> <p>The management processes and procedures in place (see Horizon's response to Q2.5.7) should avoid any need to stop or alter works. However, should this be necessary, the noise data collated as part of the management procedure will be used to determine which activities could be amended and/or items of plant stopped to prevent or remedy any breach.</p> <p>There will also be a list of plant items that cannot be stopped, such as the pumps used to cross pump water from the western side of Mound E or pumps used to dewater deep excavations. It is, therefore, difficult to provide a list of specific mechanisms that can be implemented to determine which items of plant or construction activities will be stopped or amended in advance, as this is likely to vary from day to day depending on the criticality of activities. Indeed, there may be a preference to shut down or amend a larger number of less critical construction activities/ smaller plant items as opposed to stopping or altering a small number of larger noise contributing activities that may be on the critical path.</p> <p>Each decision will be fully assessed and, hence, the Site Manger will be accountable for the final decision and implementing an agreed action plan following discussion with relevant members of the site environment, ecological and Health &amp; Safety teams.</p> <p>It is important to recognise that the noise experienced at the Cemlyn Bay tern colony will arise from a combination of activities (and noise signatures). Therefore, there will always be more than one approach that could be taken to reducing noise levels. In those instances where it is unsafe to stop an activity immediately (e.g. part why through stabilising a slope or pumping waste water), other action will be taken to reduce the noise levels experienced at the colony and, in those circumstances where the activity in question is particularly problematic, it will be altered or stopped as soon as it is safe to do so.</p> <p>Furthermore, the commitment that Horizon has made (see the Main Site Sub-CoCP submitted at Deadline 5) is to continue to monitor in order to verify that the control measures have reduced the noise levels to a level at the colony that does not cause disturbance</p>

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		<p>reactions. This will also provide a better understanding of the causes of any Project related tern 'fly-ups'. Quite quickly, the Project activities responsible for any 'fly-ups' that do occur (if any occur) will be able to be identified (based on matching acoustic signatures with site activities). Site activities will then be reviewed to identify what alterations can be made (e.g. change in work intensity, schedules or methods, or additional noise abatement), improvement plans developed and alternatives approaches adopted where they are assessed as being safe and practicable.</p> <p>The outputs from this process will be reported by Horizon on a monthly basis and the process will be passively observed by the colony tern wardens during the breeding season.</p>
Q2.5.13	<p>Could the Applicant advise if they are aware of other cases where a similar approach to the reactive noise monitoring proposed for WDNA has been used to mitigate effects on a breeding seabird colony?</p>	<p>The approach proposed is relatively novel, particularly in the context of breeding seabirds, and this reflects the specificity of the circumstances. However, the approach is appropriate in this case (i.e. where the works are to occur some distance away from the colony and will only be distantly "heard" but the Construction site is large and a breeding tern colony is within its zone of influence). Such monitoring and management approaches are typically novel, in that they need to respond to the specific circumstances that are relevant in each case (that is, they are bespoke to each site and it's unique challenges).</p> <p>Examples of other cases where a similar approach to the reactive noise monitoring has been used to mitigate effects do, however, exist and include:</p> <ul style="list-style-type: none"> <li>• The development of the Olympic Park in London, where the CoCP determined that plant had to meet certain noise limits and an assessment was made of the noise in combination (i.e. all operating plant). Based on the noise values measured plant would be removed/adapted/ exchanged to meet the limits set out (see <a href="https://web.archive.nationalarchives.gov.uk/20130403013753/http://learninglegacy.independent.gov.uk/publications/the-control-of-noise-during-construction.php">https://web.archive.nationalarchives.gov.uk/20130403013753/http://learninglegacy.independent.gov.uk/publications/the-control-of-noise-during-construction.php</a> for lessons learnt). In practice, noise monitoring stations at key locations (agreed with stakeholders) continually monitored noise levels and a series of triggers allowed the site team to understand potential issues before limit where breached. Thus the data allowed contractors to adapt plant to ensure compliance with each incident being investigated to</li> </ul>

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		<p>allow continued improvement.</p> <ul style="list-style-type: none"> <li>• The Tidal Lagoon Swansea Bay Order (EN001049) includes an Adaptive Environmental Management Plan (AEMP) that covers monitoring and response protocols in order to determine the requirement for beach renourishment, maintenance dredging, action on water quality, measures to control INNS and the installation of acoustic fish deterrents (amongst others).</li> <li>• For marine mammals and underwater noise – using a Marine Mammal Observer to scan and call a hold on works until marine mammals have gone beyond a disturbance radius before an activity, such as piling, can start is common practice. This mitigation method has been used on Offshore Wind Farm projects including the Norfolk Vanguard (Norfolk Vanguard Limited, 2018, Norfolk Vanguard Offshore Wind Farm Draft Marine Mammal Mitigation Protocol), as well as for coastal developments such as Tidal Lagoon Swansea Bay (Tidal Lagoon Swansea Bay Plc, 2014, Environmental Statement Chapter 10 Marine Mammals and Turtles) and for harbour extension projects, such as for Aberdeen Harbour (Aberdeen Harbour, 2015, Aberdeen Harbour Expansion Project Environmental Statement Chapter 15 Marine Mammals).</li> <li>• For the Westernmost Rough Offshore Wind Farm construction: a “Rafting Auk Procedure” was applied during the post-breeding season (late June to September). This was to ensure that moulting auks from the Flamborough and Bempton Cliffs SPA remained safe from construction activities and did not collide with construction vessels. This was actioned via Marine Coordination (MC) for the project, which ensured awareness of the issue and the required actions by all construction vessels. Upon a rafting auk sighting the MC would inform all vessels on site and instruct them to follow the agreed procedure. This procedure involved vessels reducing their speed to 10 knots if within 1km of the reported sighting, and avoiding approaching within 1km of any rafting auks. The details of this mitigation are set out in the Public Register of the MMO’s Marine Case Management System (Case Reference: 34633/091124/12).</li> <li>• A very similar arrangement was put in place for the construction of the Jetty at Hinkley</li> </ul>

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		<p>Point C (HPC); where, if rafting shelduck come within a specified distance of the jetty works, the works will be modified or cease (EDF, 2011 [Temporary Jetty Development - Shelduck Mitigation]; Harbour Empowerment Order 2012). Interestingly, breaches of noise limits at HPC where often due to specific activities, such as hedge cutting and the dawn chorus.</p> <ul style="list-style-type: none"> <li>Proposed shutdowns of construction activities for developments on/near estuaries during prolonged periods of cold weather also occur (and have been committed to by the Port of Felixstowe as part of the Bathside Bay Container Terminal Project, Harwich Haven (<b>Error! Reference source not found.</b>, Posford Haskoning (2004)). This is in relation to wintering waterbirds and is applied under conditions that would result in a cold weather shooting ban.</li> </ul>
Q2.5.14	<p>As part of their Deadline 4 response, the Applicant has provided updated marine works noise modelling based on US National Marine Fisheries Services criteria. Does the submitted document address NRW's concerns?</p>	<p>Horizon has discussed this response with NRW and NRW have agreed that it should (and will) be addressed by them.</p>
Q2.6.1	<p>Respond to the National Trust's further consideration at Deadline 3 of the heritage asset plans submitted in response to FWQ Q6.0.17 [REP3-056] and in particular to:</p> <ol style="list-style-type: none"> <li>The earthworks shown on Dwg 60PO80AS _ Q6.0.17_ 01b illustrative main construction activities and Dwg 60PO80AS _ Q6.0.17_ 02 illustrative operational layout.</li> <li>The use of the land immediately to the south of Cestyll Garden north of Cemlyn</li> </ol>	<p>Horizon has the following responses to the National Trust on the matters noted. When viewing the plans provided and response provided here, it should be noted that the information provided in the Horizon response is illustrative and could be subject to development within the parameters of the DCO.</p> <ol style="list-style-type: none"> <li>Horizon have reviewed the comment regarding earthworks shown on the Dwg 60PO80AS _ Q6.0.17_ 01b illustrative main construction activities and Dwg 60PO80AS _ Q6.0.17_ 02 illustrative operational layout. It is not clear what aspect of these drawings National Trust are referring to in paragraph 4 of REP3-056. It is assumed that comparison is being drawn to the local landform contour shown in the key and the landscape mounds shown on Figure 5-5 and</li> </ol>