



Wylfa Newydd Project

Comments to Responses on ExA's Further Written Question's

PINS Reference Number: EN010007

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Revision 1.0

Examination Deadline 6

Planning Act 2008

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

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3 Introduction

Purpose of statement

This statement provides a summary of the applicant's response to the stakeholder submissions at Deadline 5 for responses to the Examining Authority's Round of Further Written Questions published on 30 January 2019. Horizon have conducted a targeted approach, only providing responses where it is considered relevant and necessary. On this basis Horizon have not provided a response to every response made by each stakeholder. Responses are presented below in numerical order, and within those, in alphabetical stakeholder name order; GCC, IACC, LAL, NGOs, NRW, WG.

FWQ2.4.8: Article 31 – Acquisition of Subsoil

IACC refers to the Applicants response to this article as disingenuous “as the notices referred to will not be served until acquisition is to be taken

some time after any DCO is granted” IACC argues that landowners should be given as much detail as possible in the Book of Reference (BoR) as to what rights will be acquired so that landowners can participate fully in the examination. IACC argues that Applicant should be restricting powers to only those rights required. D3 response.

The Applicant response at REP4-027 states that “Horizon therefore wholly disagrees with the comments made by IACC. The approach adopted achieves the outcome suggested by IAAC in that right sought to be required are restricted to solely those necessary.”

Does IACC wish to comment further?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>Horizon’s approach that the rights acquired will be defined at the time of service of notices creates considerable uncertainty and concern for the IACC as a landowner and as a Highway Authority. Service of notices can be up to 5 years after DCO grant. It is not unreasonable for the Council or any other affected landowner to seek greater precision on what rights Horizon intends to acquire now in accordance with the principle of minimum interference.</p> <p>The approach being taken by Horizon is creating unnecessary dispute. The IACC continues to offer to enter into agreements to allow any works necessary on public highways without any need for CA of operational highways at all. Horizon’s refusal to even discuss voluntary agreements to carry out works is unreasonable.</p>	<p>At this stage of the Project, it is not possible to provide IACC with the level of specificity that it is seeking. Horizon cannot at this stage identify the exact portion of subsoil in each plot that it will seek to acquire because the detailed design of the A5025 Offline Highway Improvements has not yet been finalised and submitted for approval. Only when IACC have approved the detailed designs submitted under the DCO requirements will it be possible to provide the level of specificity being sought by IACC.</p> <p>This position is common to many DCOs in which powers to acquire subsoil rights have been granted. To require Horizon to provide specifics at this stage, would require Horizon to tie itself to fixed designs without the detailed design work being carried out. Horizon also notes that the majority of the subsoil being sought within the highway is not owned by IACC, but third parties.</p>

Given the IACC's willingness to enter agreements the powers sought are unnecessary and Horizon's approach does not accord with the guidance on the use of these powers. Horizon will likely argue that there is insufficient time left in the process to conclude such agreements, however this is because they did not engage with the IACC on this issue ahead of making the application or earlier in the process. Horizon should not be granted sweeping powers of acquisition due to a need created only by their own failure to properly explore other, less draconian, options.

Although IACC continue to prefer to enter into an agreement to permit works to highways, protective provisions for the protection of the highway authority are being discussed as an alternative which would allow removal of the IACC objection on a large number of plots (although not all). The IACC notes however that this is being done for expediency only, that the protective provision provisions are not yet agreed and do not yet cover all of the matters of concern. The in-principle objection to the sweeping use of CA powers beyond what is necessary to deliver the project and where a voluntary agreement has been offered is maintained.

In respect of voluntary agreements for the highway, Horizon has not refused to discuss voluntary agreements with IACC. It was intended that Horizon would enter into a section 38 agreement with IACC for the adoption of the highway, which would mean that it would not need to enter into a separate agreement. In addition, entering into voluntary agreements for each of plot would be a significant and time-consuming exercise (negotiation of the s278 agreement for the A5025 On-Line Improvement Works took around 2 years to finalise). For this reason, Horizon also sought compulsory acquisition powers which are common across other granted DCOs. Horizon rejects IACC's assertion that it is seeking "wide, sweeping powers"; all plots affected by the compulsory acquisition powers are considered necessary for the delivery of the Wylfa Newydd DCO Project.

Adoption of the highways has been included within the draft protective provisions. These provisions provide IACC with a range of protections where works are being undertaken within the highway, including the requirement that Horizon transfers rights any rights that it acquires in the highway pursuant to the DCO back to IACC on completion of the works. Horizon considers that these protective provisions should address IACC's concerns regarding any interests that are taken and works within the highways during construction of the Project.

FWQ2.4.12: PW2 – Wylfa Newydd CoCP

Many IPs have raised concerns that should the detail of the CoCP not be agreed prior to the end of examination, than existing CoCPS and sub codes are treated as statements of principle/parameters and that further detail would need to be approved by IACC using pre-commencement requirements.

1) Could this approach create the possibility of an uncertain scheme which hasn't been properly assessed?

2) Would this approach to requirements be lawful, given Rochdale principles, and is reasonably intended to fix 'finalised aspects' at a later date?

In responding to this question, attention is drawn to paras 103 and 104 or pre-application guidance.

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>In its Written Representations [REP2-325] and at the January hearings, NRW highlighted several aspects of the CoCP, Sub-CoCPs and CoOP where insufficient detail had been provided. NRW advised that further detail would need to be approved by the relevant discharging authority.</p> <p>NRW does not consider that the concerns raised over subsequent approval of the detailed CoCP, Sub-CoCPs and CoOP would give rise to any material risk of the scheme being uncertain and/or not having been properly assessed.</p> <p>The present content of the CoCPs plus any further amendment to them during examination would remain as the basis of the certified documents in the DCO. That content would act as a series of parameters against which the original scheme has been assessed. Approval of further details could not widen those parameters without separate environmental assessment.</p>	<p>Horizon does not agree that the DCO should be amended so that detailed sub-Code of Construction Practice and Code of Operation Practice documents are approved as a whole by a discharging authority. A 'blanket' approach to this is not consistent with Statement of Common Grounds with interested parties where acknowledgement is recorded that sufficient detail has been provided in many key topic areas of mitigation and monitoring.</p> <p>Horizon has responded to the representations made through written responses as well as the January hearings, and has been committed to proactively engaging with all interested parties to resolve issues where it is considered there is insufficient detail.</p> <p>Several very useful meetings have been held with NRW since the January hearings on such matters as ecological enhancement of the marine environment and coastal processes mitigation and monitoring. Good progress has been made to close out these issues. Additionally, NRW have asked for mitigation details that would be secured through</p>

The additional detail that NRW has advised is required would serve only to narrow the range of possible impacts within those parameters and therefore would not require additional environmental assessment.

NRW consider such an approach would be consistent with the legal principles in the Rochdale decision.

As detailed in our Written Representations, NRW therefore requests that the DCO be amended so that the detailed Sub-CoCPs and CoOP are approved by a discharging authority.

other environmental regulatory regimes (for example, European Protected Species Licences) to come into the DCO planning system through additional details in the Code of Construction Practice documents. Horizon believes it is not appropriate to mix the DCO planning system with other environmental regulatory regimes and this has been consistently communicated with NRW (this would particularly create issues if say, the licences were amended, and the CoCPs therefore reflected the previous controls. Horizon would therefore need to submit a change application under the Planning Act 2008 to ensure that the documents aligned).

In updates to the Code of Construction Practice and Code of Operation Practice documents submitted at Deadline 5 (12 February 2019), Horizon provided additional details and information recently agreed with NRW, and also identified some areas where it accepts sufficient details will not likely to be provided during Examination. These identified areas (for example construction lighting) have been made subject to the approval of additional individual 'schemes' in the updated draft DCO (submitted at Deadline 5, 12 February 2019) by a discharging authority. Finally, Horizon has also amended the Wylfa Newydd Code of Construction Practice and Wylfa Newydd Code of Operation Practice (submitted at Deadline 5, 12 February 2019), where further mitigation measures will subsequently be provided by, for example, Environmental Permit, European Protected Species licence, or Marine Licence, each to be approved by NRW.

To conclude, due to the combination of other environmental regulatory regimes over which NRW has the role of regulatory authority, and the inclusion of specific 'schemes' to be approved by a discharging authority post-consent, Horizon

maintains there is no need to have detailed sub-Code of Construction Practice and Code of Operation Practice documents approved as a whole by a discharging authority (as NRW would already be approving controls through separate consenting regimes). To require this ignore recent progress that has been made with NRW to firm up controls and would duplicate other environmental regulatory regimes, which is against the guidance provided by the *Overarching National Policy Statement for Energy (EN-1)* at 4.10.

FWQ2.4.16: PW7 – Wylfa Newydd CoCP

The Remediation Strategy identifies that there are further measures and plans that are required for its delivery in particular those to address unexpected contamination, implementation of the remediation and verification.

IACC consider that minimal detail on how land contamination is to be managed is provided.

Is IACC requesting that the Remediation Strategy as set out in the Main Power Station Site sub-CoCP is amended further to address the concerns it has set out? Or is IACC proposing the introduction of a new requirement?

Interested Party	IP response to FWQ	Horizon Comments
IACC	IACC maintains its position that there are further measures and plans required of the Remediation Strategy. IACC would wish to see the Main Power Station sub-CoCP amended to address these concerns. However should this information not be available by the end of the examination, IACC propose the introduction of a new requirement to allow for the approval of the following information prior to any works commencing;	Horizon considers that there is a suitable level of detail in the Main Power Station Site sub-CoCP (submitted at Deadline 5; Revision 2.0) in relation to the remediation measures that will be undertaken to address areas of known contamination. Section 9.4 of the Wylfa Newydd CoCP also contains a requirement to follow the processes established by the Model Procedures for the Management of Land Contamination; this requires the preparation of detailed methodology for the implementation of remediation, remediation verification plans and monitoring and maintenance of remediation.

a) Detailed methodology for the design, preparation, implementation, verification plan, and monitoring and maintenance of the remediation shall be submitted to and approved in writing by IACC. This is to include rationale for further sampling, remediation criteria and analysis to allow design and verification. The methodology shall be sufficiently detailed and thorough to ensure that upon completion of the site it will not qualify as contaminated land under Part IIA of the Environmental Protection Act 1990 in relation to its intended use. The approved remediation scheme shall be carried out [and upon completion a verification report by a suitably qualified contaminated land practitioner shall be submitted to and approved in writing by the local planning authority] before the development [or relevant phase of development] is occupied.

b) Details of the processes and procedures for the management of unexpected contamination, including rationale for further sampling, specific methodologies for safely managing unexpected contamination and minimising potential environmental impacts from unexpected contamination shall be submitted to and approved in writing by IACC. Any contamination that is found during the course of construction of the approved development that was not previously identified shall be reported immediately to IACC. Development on the part of the site affected shall be suspended and a risk assessment carried out and submitted to and approved in writing by IACC.

Section 9.4 of the Wylfa Newydd CoCP also contains management strategies for dealing with unexpected contamination which Horizon consider appropriate to mitigate risks.

For this reason, Horizon does not consider that a separate requirement is required.

	Where unacceptable risks are found remediation and verification schemes shall be submitted to and approved in writing by IACC. These approved schemes shall be carried out before the development [or relevant phase of development] is resumed or continued.	
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FWQ2.4.33: WN20 Site Campus finished parameter plans and maximum finished dimension of buildings and other structures
Maximum heights – Schedule 3 para 1(8) of Rev 2 now includes maximum height from above finished ground level. REP1-004 DCO revision
WG view that Accommodation Block height would not be 32meter but would be 21meter total height as the maximum number of storeys would be 7.
IACC wants both heights to be included for more clarity.
Has this been resolved and if so, where in the documentation?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The IACC request for multiple heights related to the inclusion of heights from AOD and finished ground levels so that the visual impact can be meaningfully assessed.</p> <p>The IACC position as outlined in the Written Representation [REP2-218 section 14] is that greater flexibility is required in the design and layout of the site campus (parameter limits) to allow for potential changes in storey heights. This could potentially result in the removal of some</p>	<p>Horizon considers that the visual impact assessment that has been undertaken as part of the DCO application is sufficient as it represents the worst-case of what could be built under the parameters. As shown in figure D10-20 in the volume D figure booklet (part 2 of 2) [APP-238], a range of three Site Campus heights have been used to prepare the Zone of Theoretical Visibility (ZTV) mapping, that helps inform the visual impact assessment as follows:</p> <ul style="list-style-type: none"> • Site Campus accommodation blocks 32m high (55m Above Ordnance Datum (AOD)).

accommodation blocks (particularly the three accommodation blocks towards Wylfa Head).
The IACC would however need to be consulted on which accommodation blocks should remain at 4 storey and which could potentially be increased. The need for minimum parameters has been highlighted by the IACC in numerous previous representations.
The IACC however, agrees with the WG that 4.5 meter per storey seems excessive and would seek further clarity / explanation from the applicant.
This issue has not been resolved.

- Site Campus accommodation blocks 27m high (50m AOD).
- Site Campus accommodation blocks 18m high (41m AOD).

The above assessment point heights shown in figure D10-20 are considered to reflect the main height range and distribution for the purposes of establishing the ZTV.

Just to clarify, the proposed storey height is not 4.5m, but 4m per storey (comprising of 3.5m per floor with an additional 0.5m tolerance). Horizon's interpretation of Welsh Government's position is that Welsh Government was seeking to understand how the maximum parameter of 32m (which formed the basis of the visual impact assessment) was reached, rather than any indication that parameter is "excessive". Horizon has provided a breakdown of each parameter to Welsh Government in its response at Deadline 5 [REP5-002], which includes explanation that a floor height of 3.5m (plus 0.5m tolerance) has been proposed to allow flexibility in storey height to allow for use of different manufacturers.

Condensing the Site Campus within a smaller footprint could result in a reduced physical impact on the landscape but could also result in increased visual impact due to the increase in height. The Design and Access Statement - Volume 3 (Part 1 of 2) [APP-409] sets out the design rationale for the layout of the Site Campus, including the design evolution, including the architectural building design proposals at section 4.3. Section 4.3 explains that the layout has been based on the contours of the site to fit into the surrounding landscape. The context has been carefully considered to reduce the visual impact in

		<p>conjunction with design studies to investigate options for massing and colour of the accommodation blocks.</p> <p>It is not necessarily agreed as previously inferred, that because some accommodation blocks are already proposed at 7 storeys, the visual impact of increasing the height of the others would be balanced against the reduced footprint. ‘Stepping down’ the height of building units is a well understood means of reducing visual impact and constructing all blocks at 7 storeys is likely to increase the visual impact of the overall composition.</p> <p>Therefore the proposed parameter approach provides a good balance of flexibility during detailed design and manufacturing stage as well as allowing meaningful and robust visual assessment of the worst case.</p>
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FWQ2.4.38: PR6 – Park and Ride decommissioning strategy Is IACC content with the drafting of this provision? If not, what alternative wording would be acceptable?		
Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>No, the IACC is not content with the drafting of this provision. the IACC would prefer: PR6 Park and Ride facility decommissioning strategy <u>(1) No development of the Park and Ride shall commence until an outline decommissioning strategy has been approved by the IACC.</u></p>	<p>It is not necessary, or appropriate, for an outline decommissioning strategy for the Park and Ride facility to be required to be submitted and approved before any development commencing on site. This will lead to delays in Horizon commencing works on what is a key mitigation of the Wylfa Newydd DCO Project at a time when decommissioning will be up to 10 years away.</p> <p>Horizon also considers that it has already sufficiently provided for IACC’s request for a handover environmental management</p>

(2) Decommissioning of the Park and Ride facility must not commence until a decommissioning strategy has been approved by IACC.

(3) A decommissioning strategy under sub-paragraph (2) must be submitted to IACC for approval no later than six months prior to the anticipated Unit 2 Commissioning Date, unless otherwise agreed with IACC, and must include details

of—

(a) the timeframes for decommissioning, removal, restoration and maintenance works;

(b) restoration and maintenance of structures to remain within watercourse;

(c) reinstatement of habitats affected by the Park and Ride facility;

(d) proposed works to return the land to agricultural use; and

(e) the an environmental management, aftercare and maintenance plan including a minimum aftercare and maintenance period of not less than five years; together with an explanation of how this maintenance will be undertaken and funded by the undertaker agreed with IACC.

(4) Any decommissioning strategy submitted under sub-paragraph (3) must be in

plan as this is specifically listed as (2)(e) in the Deadline 5 draft DCO.

Horizon rejects both these amendments.

Horizon, will however, include the following amendments to Requirement PR6:

- Provide that Horizon must submit an outline decommissioning scheme to IACC for approval 18 months prior to decommissioning of the Park and Ride;
- Increase the timeframe in paragraph (2) of Requirement PR6 of the Deadline 5 version of the draft DCO to require the final decommissioning strategy to be submitted for approval six months prior to the decommissioning of the Park and Ride, rather than three months.
- Outline that the final decommissioning scheme must be in accordance with the approved outline scheme.

Horizon will reflect this amendment in the updated draft DCO to be submitted at Deadline 8 (25 March 2019).

FWQ2.4.41: LC7

Applicant has amended the drafting of this at D1.

IACC does not consider that the amendments address the issues it set out at D2.

1) What are the matters that are in dispute?

2) How could these be overcome?

3) What drafting would overcome the objections of IACC?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The IACC acknowledge that welcome additions to this requirement were made. However the IACC still considers that it is not sufficient. The IACC seeks the following further amendments;</p> <p>LC7 Logistics decommissioning strategy</p> <p>(1) No development of the Logistics Centre shall commence until an outline decommissioning strategy has been approved by the IACC.</p> <p>(2)Decommissioning of the Logistics Centre must not commence until a decommissioning strategy has been approved by IACC.</p> <p>(3) A decommissioning strategy submitted under sub-paragraph (2) must be submitted to IACC for approval later than six months to the anticipated Unit 2 Commissioning Date, unless otherwise agreed with IACC, and must include details</p>	<p>It is not necessary, or appropriate, for an outline decommissioning strategy for the Logistics Centre to be required to be submitted and approved before any development commencing on site. This will lead to delays in Horizon commencing works on what is a key mitigation of the Wylfa Newydd DCO Project at a time when decommissioning will be up to 10 years away.</p> <p>In addition, as Horizon does not own the Logistics Centre it cannot commit to providing ongoing maintenance of this site following decommissioning as it would be dependant on obtaining landowner approvals to do so.</p> <p>Horizon, will however, include the following amendments to Requirement LC7:</p> <ul style="list-style-type: none">• Provide that Horizon must submit an outline decommissioning scheme to IACC for approval 18 months prior to decommissioning of the Logistics Centre;

of—

(a) the timeframes and hours of decommissioning, removal and restoration works for legacy use;

(b) retainment of views between the Ty Mawr Standing Stone and the Trefignath Burial Chamber Scheduled Monuments; and

(c) the retention of any buildings or structures, where appropriate;

(d) the retention of any existing landscaping works and features; and

(e) a handover environmental management, plan aftercare and maintenance plan agreed with IACC.

(4) Any decommissioning strategy submitted under sub-paragraph (3) must be in general accordance with the Wylfa Newydd CoCP and Parc Cybi Logistics Centre sub-CoCP.

(5) Decommissioning of the Logistics Centre and restoration of the site must be undertaken in accordance with the decommissioning strategy approved under subparagraph (2), unless otherwise approved by IACC.

(6) A decommissioning strategy will not be required to be submitted under subparagraph (2) where IACC has granted, or resolved to grant, a planning permission for the ongoing use or redevelopment of the Logistics Centre.

- Increase the timeframe in paragraph (2) of Requirement LC7 of the Deadline 5 version of the draft DCO to require the final decommissioning strategy to be submitted for approval six months prior to the decommissioning of the Logistics Centre, rather than three months.
- Outline that the final decommissioning scheme must be in accordance with the approved outline scheme.

Horizon will reflect these amendments in the updated draft DCO to be submitted at Deadline 8 (25 March 2019).

FWQ2.4.42: Application of Marine and Coastal Access Act 2009

WG propose a new article as below.

“Application of Marine and Coastal Access Act 2009

[43].—(1) This Order is subject to the provisions of Part 4 of the 2009 Act and any licence granted pursuant to that Part and is without prejudice to the powers of the Welsh Ministers under that Part.

(2) No provision of this Order obviates the need to obtain a marine licence under Part 4 of the 2009 Act or to comply with the conditions of any marine licence and nothing in this Order in any way limits the enforcement powers in respect of a marine licence

(3) In the event of any inconsistency between the provisions of this Order and a marine licence, then the terms of the marine licence shall take precedence.”

This goes further than the Swansea Bay DCO because it doesn’t specifically identify the articles/powers/requirements relating to marine works and it deals with inconsistencies.

Swansea Bay DCO

Application of Marine and Coastal Access Act 2009

16.—(1) Articles 17 to 19 are subject to the provisions of Part 4 of the 2009 Act and any licence granted pursuant to that Part and are without prejudice to the powers of the Welsh Ministers under that Part.

(2) No provision of this Order obviates the need to obtain a marine licence under Part 4 of the 2009 Act or to comply with the conditions of any marine licence.

What are the Applicant’s views regarding inclusion of this Article in the DCO?

Interested Party	IP response to FWQ	Horizon Comments
NRW	NRW supports this article as it adds clarity to the requirements and jurisdiction of the Marine Licence. We would however, recommend one minor amendment to ensure that the enforcement powers referred to are clearly specified: [43].—.... (2) No provision of this Order obviates the need to obtain a marine licence under Part 4	At Deadline 5, Horizon updated the draft DCO (Revision 5.0) to include this new article at the request of the Welsh Government. Horizon does not consider that the minor amendment sought by NRW is necessary as paragraph (2) of that new article (article 49) states: (2) No provision of this Order obviates the need to obtain a marine licence under Part 4 of the 2009 Act or to comply

<p>of the 2009 Act or to comply with the conditions of any marine licence and nothing in this Order in any way limits the enforcement powers under that part.</p>	<p>with the conditions of any marine licence and nothing in this Order in any way limits the enforcement powers <u>in respect of a marine licence.</u></p>
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FWQ2.4.45: Provide an update on progress re the charging of fees in relation to NRW's role as discharging authority for certain requirements; and provisions for developer contributions to NRW for monitoring and implementation during construction and operation (associated with its proposed role as discharging authority below Mean High Water Springs).

Interested Party	IP response to FWQ	Horizon Comments
<p>NRW</p>	<p>NRW considers that it is appropriate to secure appropriate cost mechanism for undertaking the role of discharging authority. We consider the appropriate hourly fee of £120 per hour, in line with the Marine Licensing (Fees) Order 2017.</p> <p>As such we propose an additional text for inclusion within Schedule 19. The inclusion of this text has been agreed in principle with Horizon, pending further review by their legal team. The entirety of the provision has not been reiterated for brevity.</p> <p>Currently 3.—(1) states “Where an application is made to the discharging authority for agreement or approval in respect of a Requirement, a fee must be paid to that authority as follows ”</p> <p>NRW considers that 3.—(1, 2 and 3) is restricted to the discharging authority fees due to IACC. Therefore we recommend that 3(1) is amended to 3.—(1) “Where an application is made to the IACC</p>	<p>Horizon confirms that it has agreed in principle with NRW for a separate fee mechanism in Schedule 19. Horizon has received drafting from NRW and will revert shortly to NRW with some proposed amendments.</p> <p>Horizon anticipates that the updated provisions can be included in the next update to the draft DCO at Deadline 8.</p>

for agreement or approval in respect of a Requirement, a fee must be paid to that authority as follows ”

In addition a paragraph 3 (4) should be added as follows:

“3.—(4) Where an application is made to NRW as the discharging authority for agreement or approval in respect of a minor detailed requirement or a major detailed requirement, or NRW is a Requirement Consultee, a fee must be paid to NRW which reflects the following-

- (a) fee calculated at a rate of £120 per hour; and
- (b) when calculating fees by multiplying the number of hours worked by the hourly rate the total number of hours worked may be expressed as a fraction where
 - (i) less than one hour is worked; or
 - (ii) the total amount of time worked is more than one hour but cannot be expressed as a whole number in hours.

c) A fee paid to NRW under the Marine Licensing (Fees) (Wales) Regulations (2017) for work undertaken in respect of the Marine Licence issued for the Marine Works, that is considered by NRW to meet the discharge of requirements for the Order is to be taken as a fee paid under paragraph (4).”

FWQ2.5.3: During the Issue Specific Hearing on 10 January 2019, the Applicant suggested that declines in productivity at the Cemlyn Bay Tern colony could be linked to density dependent effects resulting from the overall increase in Tern numbers, and that this might also be the reason for terns taking back several food items at once. What are your comments on these points?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>NRW agree that the decline in productivity could be linked to density dependent effects resulting from an overall increase in tern numbers and could lead to terns bringing back several food items. However, other stresses may also be having an effect on the productivity of the population, such as the provisioning of food. NRW consider that the key point is that there is significant uncertainty about what stresses are currently impacting upon the colony, and that an increase in disturbance may lead to further decline in productivity (which is already below the conservation objective of the Anglesey Terns SPA) or abandonment of the colony. (See section 7.8 of NRW's Written Representations).</p>	<p>It is helpful to note that NRW agree that the lower levels of Sandwich tern breeding productivity recorded in recent years at the Cemlyn Bay colony may be attributable to density dependent effects, associated with the marked increase in the colony population since the late 1990s. Such density dependent effects are frequently found to occur in bird (and other animal) populations. Further, as described in Horizon's Response to NRW's Written Representation [REP3-035] (paragraph 7.31.1), it is relevant to note that:</p> <ul style="list-style-type: none"> • Annual productivity in recent years (2012 – 2016) is approximately 0.55 chicks per pair (when the 2017 data are excluded, on the basis of the colony abandonment due to otter predation). This compares to a conservation objective for the site of an average of 0.85 chicks per pair over five years. • The colony population-size continued to show marked year-on-year increases up to 2015/2016, despite the fact that the average annual productivity had declined relative to that recorded in the early to mid-2000s. • Productivity-levels at the colony do tend to show marked between-year fluctuations (as shown in Figure 7 in NRW's Written Representation [REP2-325]). <p>NRW also suggest that other stresses may be affecting productivity, that there is uncertainty about the stresses</p>

		currently affecting the colony, and that an increase in disturbance may lead to further declines in productivity or abandonment. However, as noted in Horizon’s Response to NRW’s Written Representation [REP3-035] (paragraphs 7.31.1 to 7.31.2), the available evidence suggests strongly that the main vulnerability of the colony is in relation to exposure to heavy predation (as is typical for this species). The evidence for particular vulnerability to other factors is unclear and, certainly, there is no evidence provided by NRW or other parties that the colony will be vulnerable to the levels of noise and visual disturbance predicted to occur as a result of the construction activities.
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FWQ2.5.4: Sandwich Tern has been described as a species which is very sensitive to disturbance. Could the parties identify the sources of evidence which support this statement?

Interested Party	IP response to FWQ	Horizon Comments
eNGOs	<p>First reference <i>“Many [traditional breeding areas] have a long history of occupation, but the species is notoriously fickle and what seems to be slight disturbance can cause complete desertion, sometimes when the eggs have already been laid.”</i></p> <p>The Atlas of Breeding Birds in Britain and Ireland, JTR Sharrock, British Trust for Ornithology & Irish Wildbird Conservancy 1976, pub T & AD Poyser. Sandwich Tern species account pg 228 – 229. Second reference: -</p>	<p>For this question the eNGOs provide three sources of evidence to support the view that Sandwich tern is a species which is very sensitive to disturbance. Horizon does not dispute the general observation that this species can be sensitive to disturbance and, in paragraph 10.3.9 of the Shadow HRA [App-050], states that <i>“Anthropogenic disturbance (as a source of noise and visual stimuli) can cause detrimental effects on bird populations [RD323] and has often been implicated as a cause of reduced breeding success and sometimes colony abandonment in tern populations ([RD27], [RD29], [RD36]), including those of</i></p>

“In the event of serious mid-season disturbance there may even be a full-scale transfer of birds such as is believed to have occurred in 2002 when a large influx of over 200 birds arrived at Cemlyn and established a subcolony shortly after the Hodbarrow site in Cumbria was deserted. Sandwich Tern populations are notorious fluctuating wildly, due both to this habit of deserting one colony for another, and to their ‘boom and bust’ productivity,”

The breeding birds of North Wales, Anne Brenchley, Geoff Gibbs, Rhion Pritchard and Ian Spence, 2013, Liverpool Press. Sandwich Tern species account pg 228 - 229

Third reference: -

“As only a few colonies exist each year, this tern is highly vulnerable to anthropogenic disturbance (Garthe and Flore 2007) and is known to abandon eggs en masse (Gochfield et al. 2018).” In fact, Garth and Flore (2007) go as far as to indicate that from a conservation perspective, for the German Sandwich tern, all anthropogenic activities should be stopped near to the colonies on human inhabited islands where the terns establish.

Primary reference - BirdLife International (2019) Species factsheet: *Thalasseus sandvicensis*. Downloaded from <http://www.birdlife.org> on 05/02/2019

Secondary reference - Garthe, S.; Flore, B.-O. 2007. Population trend over 100 years and conservation needs of breeding sandwich terns

Sandwich tern [RD59].” However, Horizon also considers that it is important to determine exactly what evidence exists to support this view, and to understand the circumstances in which the species may show such sensitivity and how these circumstances relate to the potential disturbance effects that are predicted to occur as a result of the construction activities.

Considering the three references that are provided by the eNGOs, Horizon notes that the first two (i.e. Sharrock (1976) and Brenchley *et al.* (2013)) present what are essentially anecdotally based statements, which (from the information provided) do not enable distinction between the effects of disturbance in its widest generic sense and disturbance from anthropogenic sources. Therefore, the statements could refer equally to the effects of disturbance by predators or similar events at the colony, as well to a range of possible anthropogenic disturbances.

The third reference is taken primarily from a peer reviewed paper concerned with the status and conservation needs of Sandwich terns in northern Germany (Garthe & Flore, 2007). In relation to this reference, the eNGOs state that the authors *“go as far as to indicate that from a conservation perspective, for the German Sandwich tern, all anthropogenic activities should be stopped near to the colonies on human inhabited islands where the terns establish.”* However, closer inspection of Garthe & Flore (2007) shows that this statement is made in the context of Sandwich tern colonies on islands that are *“visited by tens of thousands of tourists each year”*, with the subsequent text implying that there is a lack of control measures around these colonies to prevent intrusion by visitors into, or close to, the colonies. Horizon does not consider that such situations are analogous to the noise and

(*Sterna sandvicensis*) on the German North Sea coast'. *Journal of Ornithology* (2007) 148:215-227.
Secondary reference - Gochfeld, M., Burger, J. and Garcia, E.F.J. 2018. Sandwich Tern (*Thalasseus sandvicensis*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. and de Juana, E. (eds), *Handbook of the Birds of the World Alive*, pp. Lynx Edicions. Barcelona.
<https://www.hbw.com/node/54016>.

visual disturbance that will result from Wylfa Newydd Project's construction activities. Furthermore, Garthe & Flore (2007) also describe the following situation in relation to breeding Sandwich terns in northern Germany, which provides evidence of the ability of the species to breed in the presence of certain types of anthropogenic disturbance:

“Breeding habitats in the Wadden Sea area are usually defined as areas consisting of sand and dunes with little vegetation (e.g. Veen 1977; Nehls 1982; Großkopf 1991). However, there is some variability in nesting habitat selection as shown by colony sites, such as on Juist where there is more vegetation. The most unusual breeding site on the German North Sea coast existed on Minsener Oog where there was a colony from 1952 to 1985. The size of the island was less than 1 ha, the birds bred near a building used for water works, and movements of machines (vehicles, small train) were taking place even during the breeding period (Rittinghaus 1979). From 1975 to 1980, the island was enlarged to 210 ha by depositing sandy sediment, without any apparent influence on the sandwich tern colony.”

FWQ2.5.5 During the Issue Specific Hearing on 10 January 2019, the Applicant described how noise from construction would be attenuated over the distance between the main power station site and the Tern colony at Cemlyn Bay and would be experienced as background at the colony. If you do not agree with this characterisation of the construction noise environment please could you explain why?

Interested Party	IP response to FWQ	Horizon Comments
eNGOs	<p>It is well understood that noise will attenuate over distance from a source and the eNGOs accept the noise modelling and predictions as represented in the Environmental Statement (eNGO WR [REP2-348 ∞ 3.4]*). However, the eNGOs do not agree with Horizon’s description that the alteration in the soundscape by construction will only be experienced as background at the tern colony. The eNGO evidence in their WR [REP2-348 ∞ 3.7 – 3.11], seeks to demonstrate the changes to the soundscape from construction impacts. The eNGOs have considered the D4 additional data [REP4-022 Cemlyn Bay Baseline Noise for 2018] and whilst adding to the sum of data collected (2017 – 25 record sheets and 2018 12 record sheets) this additional information does not alter our opinion. The explanation below provides a brief summary of the changes and the differences in the characteristic of the soundscape the terns will experience at the breeding colony. It is also important to recognise that the soundscape will also change for the 75% of birds that commute through the harbour both during construction and operation.</p>	<p>In relation to this question it is important to set out in full the description of sound provided at the Issue Specific Hearing on 10 January 2019, which was (approximately) as follows:</p> <p><i>1) That at ~1km distance, the high frequency sounds would attenuate more than low frequency sound (i.e. greater attenuation of clatters/ringing etc. than engine noise), and</i></p> <p><i>2) with over 400 items of plant operating at the same time, noise (even impulsive noise) from any single item would not be easily distinguished due to masking from the other items of plant.</i></p> <p><i>The combined effect would be that the typically very strong impulsive character of construction noise would be less prominent at the nesting sites - so it would be a bit more like road traffic noise.</i></p> <p>Given the above, Horizon considers that it is helpful that the eNGO response states that they accept the noise modelling and predictions as represented in the Environmental Statement.</p> <p>The eNGOs, in their response, also appear to suggest that the modelling used to predict impulsive noise from construction activities includes possible sources of (unavoidable) underestimation. However, in this regard, Horizon considers that it is important to re-state the assumptions used for the</p>

Current soundscape, its signature and characterisation

- The evidence presented by Horizon confirms the generally accepted subjective view that the tern colony occurs within a quiet natural landscape (wind noise, wave lapping, leaves in trees etc) with relatively limited anthropogenic noises (agricultural sounds of grazing stock, tractors and low vehicle activity).
- The soundscape does not experience many impulsive sounds with rise times that are considered to equate to rock blasting ([APP-225 ∞ 5.2.3 quotes - distant gunshot, tractor door & a grain store door slamming]) in 2018 there was only one clearly perceptible impulsive sound [REP4-022 Appendix 5-3].
- Noise levels at the colony increases due to the terns' behavioural response to events [APP-231 ∞ 4.6, Behavioural Studies] but this is not a continuous increase in level. This will be a soundscape that these colonial birds are entirely habituated to as it is internally generated by the species behaviour.

Soundscape during construction, its signature and characterisation

- The environment will become noisier as the background levels as a whole increase [APP-231, fig 2 'Predicted bounded case short term noise levels' - Db LAEQ, 5min].
- A variety of impulsive and percussive noises (varying tonality) will be generated during construction including dump trucks, rock crushing

noise modelling, which are described in the assessment (e.g. in paragraphs 10.3.16 – 10.3.21 of the Shadow HRA [APP-050]). Thus, for both impulsive and non-impulsive noise the follow assumptions were made:

- All plant located on the boundaries of each working zone closest to the colony.
- No attenuation of sound due to ground effects over water (and only assuming 50% acoustically absorbent ground on land).
- No account of sound attenuation due to factors such as reflection of sound waves, terrain effects and atmospheric absorption.
- No correction for any barriers or screening.

An additional 2dB added to the predicted noise levels to account for potential refraction under downwind propagation conditions.

Given this, Horizon is of the view that the noise predictions (including of impulsive noise) are highly conservative (and do not underestimate the noise from the construction phase).

In considering the eNGO response, it is also important to bear in mind that the onset (or 'attack') of impulsive sound will reduce with distance because there are multiple paths by which the sound arrives at the receptor, including reflections from intervening ground and paths refracted or reflected by the atmosphere. On reflected sound Bullmore [1] states: "*The reflected sound pressure is reduced in amplitude relative to the direct pressure wave (by the ratio of the direct path length to the total reflected path length) and it also suffers a time delay (equal to the path length difference between the reflected and direct paths divided by the speed of sound in the atmosphere)*". [Bullmore, A. (2011) "Ch. 2 Sound Propagation

or piling. This category also includes blasting – an impulsive sound with a distinct steep/rapid rise time sound signature. These have been modelled in the analysis and discussed by all parties (eNGO WR [REP2-348 ∞ 3.10 & Table 2] and Horizon [APP-231 Section 6]).

- Not only will the frequency and periodicity of activities generating impulsive/tonal noise increase during construction, but they will have a different sound signatures to those which currently occur at the site and consequently the terns (and other wildlife) will have no familiarity with them.

- In addition, there will be a concomitant increase in other general impulsive noises with steep rise times associated with construction (eg equipment doors slamming, industrial equipment banging/graunching together), which will be unpredictable and cannot easily be accounted for in the modelled noise analysis.

- There will be spatial and temporal variability in the soundscape – for example impulsively generated noises/unexpected impulsive noises will not always occur when the background levels are also high, or vice versa/other permutations.

- All sounds will attenuate with distance from source, but an impulsive noise will still have the same rise time signature and therefore suddenness of character. The increasing number and periodicity of impulsive sounds and when they may occur will still have the ability to punctuate the background soundscape, potentially even

from Wind Turbines,” in *Wind Turbine Noise*, Leventhall, G. and Bowdler, D. Eds. Brentwood, UK: Multi-Science Publishing Co. Ltd, 2011, p. 260.].

In describing the soundscape that currently exists at the Cemlyn Bay colony, Horizon notes that the eNGOs’ response fails to mention several sources of impulsive noise events that occur (most notably overhead jet aircraft) and would refer the ExA to APP-225 (Figures 3.218 – 3.251) and REP3-045 (Graphs 1 – 4 and Appendix A) as suitable sources for providing further information on this.

Finally, the response of the eNGOs also alludes to the change in soundscape that will occur over the harbour area, across which Sandwich terns from the Cemlyn Bay colony frequently commute. However, should these increased noise levels be sufficient to disturb these commuting terns then the expected response would be a displacement in the flightpaths of these birds. As demonstrated in the Shadow HRA [APP-050], even under highly precautionary and extreme assumptions about the potential extent of any such displacement, the effects are predicted to be minimal in terms of the increased energy expenditure (and hence impacts to the population).

where the decibel levels of the two noises are close.

– Although some sounds will be subsumed into the increased background environment, there is also the factor that animals – like humans – have a varying acuity and perceptiveness in ‘picking out’ sounds from a background soundscape [REP2-348 ∞ 3.59].

Whilst the modelling and predictions within the ES are very helpful in analysing the broad changes to the environment, it is extremely difficult for them to accommodate and effectively demonstrate the variability that will occur during construction. This is not a criticism of this particular study, but an observation that in general terms such methodologies provide a levelled-out/smoothed representation. This is important to consider when the WNDA site moves from its current characteristic signature; a countryside landscape with agricultural business - to a large-scale construction site for a harbour and large industrial facility, including the earthworks that are akin to a minerals application with associated rock blasting.

* Apologies – some APP document references appear to have been reversed in the eNGO WR [REP2-348] in relation to the two main ES noise documents APP-225 and APP-231.

FWQ2.5.5: During the Issue Specific Hearing on 10 January 2019, the Applicant described how noise from construction would be attenuated over the distance between the main power station site and the Tern colony at Cemlyn Bay and would be experienced as background noise at the colony. If you do not agree with this characterisation of the construction noise environment please could you explain why?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>As NRW has highlighted in its Written Representation, NRW consider that disturbance resulting from the combined effect of noise and visual stimuli may reduce the breeding success or lead to potential abandonment of the colony by terns.</p> <p>We note that blasting on site will remain below 60dB when accounting for wind factors. As NRW highlighted in 7.8.31e of its Written Representations, it is unclear how noise-generating construction activity will be managed in accordance with the highly variable wind and weather conditions at Wylfa Newydd.</p> <p>It should be noted that terns that fly in to and out of the colony will experience increased noise levels. These noise stimuli will be experienced by the birds cumulatively with the visual stimuli and may cause added stress to the colony, which may lead to reduced productivity or abandonment.</p> <p>We also note that the Technical Note proposes action thresholds where amber and red thresholds are proposed to ensure that there are no exceedances of the committed noise levels. As detailed in section 2.1 of this Deadline 5</p>	<p>The NRW response to this question does not address the key issue of whether they agree with the characterisation of the construction noise environment, as presented by Horizon at the Issue Specific Hearing on 10 January. Instead, NRW re-state their contention that disturbance from the combined effects of noise and visual stimuli may reduce breeding success or lead to potential colony abandonment (but, again, without providing any evidence to support this contention).</p> <p>NRW also state that terns flying in to and out from the colony will experience increased noise levels. However, should these increased noise levels be sufficient to disturb these commuting terns then the expected response would be a displacement in the flightpaths of these birds. As demonstrated in the Shadow HRA [APP-050], even under highly precautionary and extreme assumptions about the potential extent of any such displacement, the effects are predicted to be minimal in terms of the increased energy expenditure.</p> <p>In expressing concerns over the effects of variable wind and weather conditions on the predicted noise from blasting, NRW fail to account for the mitigation measures Horizon will put in place to ensure that the committed noise levels are met [see REP3—048]. Moreover, from the air-over-pressure noise model (validated by IACC and verified by trial blasts), Horizon</p>

response, NRW has raised a number of concerns regarding the deliverability of the mitigation outlined in the technical note. For example, the technical note states “mitigation measures will be identified to reduce the noise to the acceptable specified level at the receptors”, however it also states, “decision-making process on the mitigation measures to be applied will be guided by safety considerations, amongst others, as well as the availability of equipment and potential impacts on other environmental receptors, and the overall construction programme”.

will be able to predict with confidence the noise that will reach the colony under different wind and weather conditions. Therefore, as long as the Ecological Clerks of Works have weather data (which they will have), they will be able to confirm to the Site Manager what blast size should be used at any point in time in order to comply with the agreed noise limits.

Regarding the deliverability of the mitigation outline in the Technical Note [REP3-048], further details are provided on this in Horizon’s response to Further Written Questions 2.5.7 and 2.5.12 at Deadline 5. That is, regarding the decision-making process and safety considerations, typically, the options available to the Site Manager 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 & Safety and environmental risk appropriately. This will be informed by a detailed list of all plant and equipment being used on the site that will include data on operating noise and emissions.

That is, 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.

FWQ2.5.6: Could the parties provide references (including copies of abstracts where relevant) for any scientific literature that deals directly with the effects of construction disturbance on Sandwich Terns or closely related species?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>As far as NRW is aware, the only reference that deals directly with the effects of construction disturbance on Sandwich terns appears to be that of Harwood et al. (2017) in relation to the construction of an offshore wind farm. This showed unexpected sensitivity of birds in flight to construction activity, which reveals the nature of the species and reinforces the known sensitivity of the species on its breeding grounds.</p> <p>It should be noted that the use of closely related species as a proxy for the species of concern, particularly in relation to behavioural aspects should be treated with extreme caution as there may be considerable differences between similar species.</p> <p>Indeed, variability within species is to be expected, especially where this has a wide distribution and is subject to a range of environmental conditions to which a particular population is adapted. Thus, the use of the study by Brown (1990) who played pre-recorded aircraft noise to Crested Tern <i>Thalasseus bergii</i> (in the</p>	<p>NRW identify the study of Harwood <i>et al.</i> (2017) as the only reference they are aware of that deals directly with the effects of construction disturbance on Sandwich terns. However, as detailed in Horizon’s response to this question, although this study applies to breeding Sandwich terns, it is not concerned with effects at the breeding colony itself (but rather to birds far offshore). In relation to this study, NRW state that the study showed unexpected sensitivity of birds in flight to the construction of an offshore wind farm, which they also state reinforces the known sensitivity of the species on its breeding grounds.</p> <p>Whilst this study did demonstrate that some terns avoided areas of construction activity, this effect equated to a reduction of only c.30% in the number of terns entering the wind farm area (as stated in the paragraph 10.3.108 of the Shadow HRA [APP-050]), and the overall abundance in the wind farm area was not significantly reduced. Furthermore, this study was undertaken in relation to the construction of an offshore wind farm, with the greatest reduction in terns entering the wind farm (i.e. c.30%) occurring during the late construction phase when the testing of turbines presented a collision risk to the terns. Importantly, the extent to which the</p>

same genus of Sandwich Tern) in a colony in Australia is of debatable value as being representative of Sandwich Terns at Cemlyn. This is for several reasons 1) it is a different species in a different circumstance 2) because recorded aircraft noise is likely to differ in structural terms from the noises to be experienced at Cemlyn. Thus, the results should be treated with caution especially if taken as supportive evidence of a lack of disturbance at Cemlyn. In this context, the author reports that flights and an escape response were only initiated at higher levels of noise (>85 dB). However, birds were alert and scanning at all noise levels which began at 65 dB, which incidentally is broadly similar to predicted at Cemlyn. Thus, it is unknown if birds would have undertaken a similar response at much lower noise levels. In this regard, the study becomes of very limited use to the situation at Cemlyn. Moreover, with regards to exposure to high levels of noise causing the birds to take flight the author notes that this is “quite likely to affect breeding success”

...”But a more difficult question is whether repeated exposure to lower levels which result in alert and scanning behaviours does also”. In other words, no conclusion is reached.

Even in this case, it is suggested that the precautionary principle would clearly apply, reinforcing a similar approach in relation to potential disturbance at Cemlyn. In particular, it is

recorded effects on terns were attributable to (i) visual disturbance from an array of large turbines; (ii) noise disturbance from construction; or (iii) possible reductions in prey densities due to impacts from piling, is unknown (although the authors speculate that the latter is an obvious alternative explanation for the avoidance of areas of wind farm construction activity).

NRW also make reference to the study on the effects of recorded aircraft noise on nesting crested terns (Brown 1990), which is referred to and used in the Shadow HRA [APP-050]. The key finding from this study is that the terns showed fly-up responses to the simulated aircraft noise only at levels of 85dB or above (which is considerably above the levels predicted for construction noise, and analogous to the findings obtained from the baseline disturbance surveys undertaken by Horizon at the Cemlyn Bay colony). However, NRW suggest that the findings from this study are of limited applicability to the Cemlyn situation because the crested terns showed alert and scanning behaviours in response to the lowest simulated noise levels (i.e. 65dB), and there is a risk that an increase in such low-level responses could have impacts on the colony.

This suggestion is flawed on two counts, as follows:

- As detailed in the Shadow HRA [APP-050] and discussed during the Issue Specific Hearings on 10 January 2019, the evidence for effects of more subtle stress-type responses arising from disturbance derives from studies where the direct presence of people (likely to be perceived as potential predators) constitutes the disturbance source. This differs from the situation at Cemlyn, where potential disturbance is from construction activity.

noted that for Sandwich Terns it is not possible to determine the threshold of disturbance at which birds will abandon a colony en masse and in fact it is unlikely that there will be definable warning of what will be a catastrophic event. As such, it is thought to be impossible to 'manage' the risk of abandonment through monitoring beforehand.

In section 7.8.27 – 7.8.29 of NRW's Written Representations [REP2-325] we advise that there is significant uncertainty and/or insufficiency regarding the evidence used in the Shadow HRA to consider the sensitivity of terns to disturbance. As stated in paragraph 7.8.13, NRW has previously informed the applicant that it is not aware of further information that may be available or could be collected that would address the uncertainty.

References:

Brown, A.L. (1990) Measuring the effect of aircraft noise on sea birds. *Environment International* 16: 587- 592.

Harwood, A.J.P., Perrow, M.R., Berridge, R., Tomlinson, M.L. & Skeate, E.R. (2017). Unforeseen responses of a breeding seabird to the construction of an offshore wind farm. In: *Conference on Wind Energy and Wildlife Interactions Presentations from the CWW2015 conference* (ed. J. Köppel). Springer International Publishing. pp. 19-41. ISBN 978-3-319-51270-9.

- Such alert and scanning behaviours will be very common-place occurrences for the terns nesting at the Cemlyn colony. As demonstrated in a wide range of studies (e.g. Brown 1990, Cutts *et al.* 2009 & 2013, Wright *et al.* 2010 [see APP-050]), these types of behaviours occur in response to lower thresholds than do flight or fly up responses (whether for noise or visual disturbance, or in relation to other factors such as predator presence). The baseline disturbance surveys undertaken by Horizon demonstrate that fly ups are frequent occurrences under baseline conditions (estimated to average c.25 per day), and it therefore follows that scanning and alert behaviours will be substantially more frequent than this. Given this, it seems highly improbable that increases in such behaviours as a result of construction activities could lead to impacts on the colony breeding success or likelihood of abandonment (even if there was evidence for a mechanism by which such responses lead to effects on breeding success).

FWQ2.5.8: With regard to disturbance from visual stimuli, the Applicant has stated that there would be no construction work undertaken within 500m of the nesting islands between 15 April and 15 May with no bulk earthworks undertaken within 500m of any known active Tern nests thereafter. Does this address any of the parties concerns? If not, what additional measures would be required?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>Noise and visual stimuli resulting from construction activity will occur simultaneously and, therefore, they cannot be separated and need to be considered cumulatively. NRW advise that there is significant uncertainty regarding the combined effect of both visual and noise stimuli, caused by activity occurring on both land and sea, upon the tern colony. NRW advise that noise and visual stimuli could result in additional stress, decreased productivity and risk of abandonment.</p> <p>NRW also consider that evidence provided from the Wildlife Trust and National Trust is also relevant.</p> <p>Section 3.124 of the environmental NGOs' written representations [REP2-348] states that "It is well observed that terns can fail to deliver food to chicks and brooding females as a result of disturbance close to the colony from unexpected visual or visual and noise events such as kite-surfers, jet skis or power boats ", "When disturbed it can be seen that some returning birds with prey</p>	<p>Horizon disagrees with the statement by NRW that there is significant uncertainty over the combined effects of the visual and noise stimuli, as predicted to occur from the construction activities, upon the Cemlyn Bay tern colony. Horizon refer the Examining Authority to its Shadow HRA [APP-050], Response to NRW's Written Representation [REP3-035] and other submissions as justification for this.</p> <p>It is also noted that NRW refer to the evidence presented in the eNGOs Written Representation [REP2-348] pertaining to the observation that "<i>terns can fail to deliver food to chicks and brooding females as a result of disturbance close to the colony from unexpected visual or visual and noise events such as kite-surfers, jet skis or power boats</i>". It should be noted that (as stated in the question from the Examining Authority) the construction activities will remain at a distance of 500m or more from the nesting islands. Therefore, they will not produce conditions analogous (or even remotely similar) to those described by the eNGOs (which involve kite-surfers, jet skis or power boats in close proximity to the colony).</p>

	<p>may swallow the food item, not return to the nest and then ‘U-turn’ to start another foraging trip”. The 500m buffer area will not address the additional risk highlighted in the eNGOs’ written representations.</p>	
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FWQ2.5.14: 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?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>We refer you to section 2.3 of this Deadline 5 response. NRW has considered the additional information submitted by the Applicant at Deadline 4 [REP4-005].</p> <p>Appendix 2-1 supplied to NRW by the applicant, presents the results of new noise modelling against the NMFS injury criteria. Before NRW can provide its complete advice, we request assurance on the accuracy and correctness of the modelling in the Appendix 2-1 because there appears to be some issues with propagation calculations that estimate how quickly source sound levels attenuate in shallow water. The choice of metric outlined in the Appendix - these being the unweighted peak Sound Pressure Level (SPL_{peak}) and the weighted cumulative Sound Exposure Level (SEL_{cum}) - determine the interpretation and route of action/mitigation. NRW</p>	<p>The updated underwater modelling based on the NMFS (2018) criteria presented in Appendix 2.1 of Appendix 1.3 of REP4-009 (not REP4-005 as referred to by NRW) has been reviewed by Subacoustech and, regrettably, an error was detected. It was found that the peak values had been multiplied by 24-hours, which is not applicable for SPL_{peak} values. Therefore the modelling has been re-run the for a single strike SPL_{peak} and updated. Resulting in a reduction of 6 dB for the SPL_{peak} criteria ranges within 10m.</p> <p>The results of the revised updated underwater noise modelling are provided as Appendix 1 to Horizons’ Deadline 6 response to NRW’s response to Biodiversity ISH actions and indicate that the potential risk of PTS and onset of TTS remains of negligible significance for marine mammal populations; with no significant changes to the assessment in the Shadow HRA [APP-050].</p> <p>The construction activity that has been assessed to have the potential to create the largest impact range is rock breaking or peckering. The updated underwater noise modelling indicates</p>

therefore seeks clarity on which metric the applicant is proposing as the appropriate choice. NMFS (2018) recommends using whichever criteria results in the largest 'isopleth' (i.e. radius) for calculating Permanent Threshold Shift (PTS: hearing injury) onset. For rock breaking - the loudest noise source - the worst case of these metrics (unweighted SPL_{peak}) predicts PTS in harbour porpoise out to distances of 2km (Table 13). This is significantly greater than the PTS distances calculated using the weighted SEL metric (SEL_{cum}) of 380m (Table 12), which in turn is greater than the distance calculated using the Southall et al (2007) criteria (M-weighted SEL) at 25m, as presented in previous modelling results (Table 8-16 Shadow HRA).

Depending on the outcome from the modelling clarification sought, there is the potential that NRW would advise implementing additional mitigation that goes beyond the standard JNCC noise mitigation protocols. This might include the reduction of noise at source by utilising lower breaking/hammer energies, using noise screens (e.g. bubble curtains), using alternative methods, managing construction planning/timing.

that the PTS effect on harbour porpoise, bottlenose dolphin and grey seal could occur up to a distance of 380m for harbour porpoise, 10m for bottlenose dolphin, 790m for minke whale and 250m for grey seal; based on the NMFS (2018) impulsive criteria for the weighted cumulative Sound Exposure Level (SEL_{cum}).

The risk of PTS based on NMFS (2018) impulsive criteria for the unweighted peak Sound Pressure Level (SPL_{peak}) due to underwater noise during rock breaking in harbour porpoise, bottlenose dolphin, minke whale and grey seal has been modelled to have the potential to occur up to a range of 4m, 1m, 1m and 1m respectively.

Therefore, the largest range at which PTS may occur is up to 790m (based on the NMFS (2018) impulsive criteria for the weighted SEL_{cum}); and this is Horizon's choice of metric. That is, the range that would require mitigation to ensure no marine mammals are at risk of PTS onset. A more detailed Marine Mammal Mitigation Plan is being developed to support the Marine Licence in consultation with NRW as discharging Authority.

FWQ2.6.3: Do the Applicant's responses to Historic Environment issues set out in Horizon's Response to the Welsh Government's WR [REP3-034] provide assurance that the technical and policy tests set out in EN1, EN6, Planning Policy Wales 10, Cadw's published Conservation Principles, Technical Advice Note (TAN) 24: Historic Environment and any other relevant legislation and guidance in respect of the Historic Environment and raised in the WR

[REP2-367] have been met? Is the proposed additional mitigation adequate? With particular reference to:

1) The substantial harm on Cestyll (Grade II) Registered Park and Gardens and Horizon's proposed mitigation strategy, including the request for a long term, secured and funded Conservation Management Plan covering the forthcoming statutory registered area boundary for Cestyll Gardens and including measures to mitigate impacts associated with the Grade II* Listed Felin Gafnan Corn Mill (Porth y Felin) (Asset 137), Grade II

Listed Corn-drying house at Felin Gafnan (Asset 141), and Grade II Listed Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144) to be prepared with and approved by Cadw.

2) Exclusion of the temporary sewerage treatment plant located within Essential Setting of Cestyll Gardens from the Environmental Impact Assessment.

3) The potential impacts and mitigation strategy for buried archaeology within and around the WNDA?

4) The mitigation and restoration strategy for historic buildings during construction and operation, including the Grade II* Listed Felin Gafnan Corn Mill (Porth y Felin) (Asset 137), Grade II* Church of St Padrig (Llanbadrig) (Asset 26) (where additional mitigation has been requested), Grade II corn drying house (Felin Gafnan) (Asset 141), Grade II Mill House (Felin Gafnan, Cylch-y-Garn) (Asset 144) and Cafnan House and associated outbuildings (Asset 181) and whether a commitment to restoring any historic buildings which are subject to damage during the construction activities has been made and secured?

5) The setting impacts on Trelignath Burial Chamber Scheduled Monument, including the scope and extent of any landscaping and planting measures undertaken and how they help screen the setting of the two scheduled monuments from the Logistics Centre and the long-term restoration plan for the site on completion of the project.

If not, why not and what needs to be done to provide the assurance needed?

Interested Party	IP response to FWQ	Horizon Comments
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IACC	<p>1) The applicant's response to the Welsh Government [REP3-034] does not present any of the additional information requested by IACC to provide any additional assurance that the tests set out in NPS EN-1 5.8.14 that '...loss affecting designated heritage assets should require clear and convincing justification...' and at EN-1 5.8.15 that 'Where the application will lead to substantial harm to or total loss of significance of a designated heritage asset the IPC should refuse consent unless it can be demonstrated that the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm' have been met. There also needs to be a DCO requirement or s106 obligation that "prevents any loss occurring until it is reasonably certain that the relevant part of the development is to proceed" (NPS EN-1, 5.8.17).</p> <p>NPS EN-6 does not provide any general policy guidance regarding nuclear power and the historic environment.</p> <p>PPW10 (December 2018) notes that the "historic environment is a finite, non- renewable and shared resource and a vital and integral part of the historical and cultural identity of Wales ... (and) ... can only be maintained as a resource for future generations if the individual historic assets are protected and conserved" (para 6.1.5). It lists</p>	<p>1)Please see Horizon's response to Q2.6.3 and REP 3-004, paragraphs 17.5.17 to 17.5.55. Horizon has clearly demonstrated that the substantial harm to Cestyll Garden is necessary in order to deliver substantial public benefits that outweigh that loss or harm, in accordance with NPS EN-1 at 5.8.15.</p> <ul style="list-style-type: none"> • In respect of paragraph 5.8.17 of NPS EN-1, the relevant aspects of the Wylfa Newydd DCO Project that would cause a loss of significance to Cestyll Garden are part of Main Construction. • With regard to securing the Conservation Management Plan please refer to Horizon's response to Q2.6.2. • As noted in REP3-034 due to the operational requirements of the Power Station it is unlikely that the kitchen garden can be reinstated at its former location. However, Horizon are reviewing what can be practicably achieved, and will provide a response at Deadline 7. • As noted in Horizon's Response to Written Representation - Welsh Government [REP3-034] due to the operational requirements of the Power Station it is unlikely that the kitchen garden can be reinstated at its former location. However, Horizon are reviewing what can be practicably achieved, and will provide a response at Deadline 7. • As the areas of Cestyll Garden located within the WNDA would be managed in line with the principles identified in the Landscape and Habitat Management Strategy (Rev 2.0) [REP2-039], Horizon consider that a separate CMP for these areas is unnecessary.
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the Welsh Government's specific objectives for the historic environment, including to "preserve the special interest of sites on the register of historic parks and gardens" (para 6.1.6). None of these policy objectives are met under the current proposals.

The additional mitigation proposed by the Applicant is welcomed, but there are still some important issues that need to be fully understood.

- It is not clear that the Conservation Management Plan (CMP), and associated works are adequately secured – the mitigation proposals relate to the applicant using 'best endeavours' to deliver the proposed mitigation;
- IACC has specific concerns for the adequacy of funding suggested in the draft s106 agreement (REP3-042) and has commented separately on that provision;
- The CMP proposed by the Applicant relates only to the Valley garden, rather than the wider designation and specifically excludes areas of Cestyll within the WNDA;
- The Applicant has not provided sufficient detail of proposals to restore and
- manage the kitchen garden at Cestyll in the LHMS (REP2-039);
- The buildings at Felin Gafnan are excluded from the proposed CMP; and

- As identified in paragraph 1.15.19 of Horizon's Response to Written Representation - Welsh Government [REP3-034] Horizon consider that the measures to mitigate effects Grade II* Listed Felin Gafnan Corn Mill (Porth y Felin) (Asset 137), Grade II Listed Corn-drying house at Felin Gafnan (Asset 141), and Grade II Listed Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144) identified in chapter D11 (cultural heritage) (APP-130), and above, can be effectively implemented and secured through inclusion in chapter 12 of the Wylfa Newydd CoCP (APP-414) and chapter 12 of the Main Power Station Site sub-CoCP [APP-415]. The CMP is only therefore required for the valley garden.

2) In relation to the packet sewage treatment plant please refer to the response provided by Horizon in paragraphs 1.15.12 and 1.15.13 in REP3-034 and Horizon's response to Q1.0.1 of the Examining Authority's First Written Questions [REP2-002]. Effects on the valley garden during construction resulting from noise and visual intrusion were identified in paragraph 11.5.39 of chapter D11 (Cultural heritage) [APP-130]. Please also note that the potential location of the package sewage treatment plant is shown on Figure D5-1 [APP-237]. For information on sensitive off-site locations please refer to chapter D5 (Air quality) [APP-124].

The effects on the setting of Cestyll Garden, including effects resulting from visual intrusion and noise intrusion were assessed in chapter D11. As noted in paragraph 11.5.40 of chapter D11 no effects on Cestyll Garden are predicted due to changes to surface water or groundwater that may result from

- In the absence of the framework provided by a more comprehensive CMP, proposals for mitigation are likely to be ad-hoc and of questionable value.

See the IACC LIR (Chapter 17, section 4.4.14 – 4.4.20) for all mitigation measures necessary to compensate for the losses and impacts predicted for Cestyll Garden.

Further assurance that the relevant policy tests have been met would be provided by a clearer statement of how the heritage significance of Cestyll has been considered in the design process, a clear statement of how any mitigation would be secured and specific consideration of the concerns set out above.

2)

In the Applicant's response to the Welsh Government's query [REP3-034] about the exclusion of the temporary sewage treatment plant from the ES, it is stated that the assessment of effects presented in Chapter D11 was based on information presented in the Parameter Plans, parameter tables and Chapter D1. However, none of these identify any development within Cestyll Garden and do not provide any information on the location or scale of the proposed temporary waste water treatment plant.

Therefore, there is no evidence that the assessment of effects on Cestyll Garden presented in Chapter D11 took into account the

construction activities (see chapter D8 (Surface water and groundwater) [APP-127] for more information).

3) Please refer to the responses provided in paragraphs 17.5.12 – 17.5.13 and paragraphs 17.5.17 to 17.5.39 of REP3-004. Please also refer to Horizon's response to Q2.4.44.

4) Please refer to the section 8 Noise and Vibration management strategy in the revised Wylfa Newydd Code of Construction Practice and the Main Power Station Site sub-CoCP submitted at Deadline 5. With regard to undertaking structural surveys as stated in Horizon's response to Q2.6.2 the need for and nature of the repair works will be informed by dilapidation surveys of the properties which will be undertaken by Horizon prior to the start of construction and after the completion of construction. The dilapidation surveys will be secured by inclusion in Section 12 of the Main Power Station Site sub-CoCP, as submitted at Deadline 5.

As identified under Schedule 12 Construction Noise Mitigation of the draft DCO s106 "The Council will apply the Construction Noise (Eglwys Sant Padrig Church) Contribution to work with the owners of Eglwys Sant Padrig Church to agree an appropriate noise insulation measures to reduce noise to address impacts of construction noise for the Construction Period."

These parties would therefore decide if any measures (which could also include for example installation of sound re-enforcement systems) are deliverable given the sensitivity of the structure and appearance of the church and would provide an effective response to the predicted change.

physical and visual impact of the proposed temporary waste water treatment plant which, according to the Marine Licence application drawings, is to be located within the Essential Setting, between the Valley Garden and the Kitchen Garden.

The Applicant's response to the Welsh Government's query [REP3-034] about the exclusion of the temporary sewage treatment plant focuses on odour. IACC requests further clarification as to how the Applicant has defined the 'sensitive off-site locations' referred to at 1.15.13 of their response to be assured that this judgement included visitors to Cestyll and Felin Gafnan.

This proposed development could also affect Cestyll garden in other ways which are not addressed in this response. These factors could increase the sense of Cestyll becoming subsumed within a wider industrial landscape, reducing historic and architectural interests and include:

- Contribution to visual change, including the effect that this development may have on the ability to deliver low-level visual screening of construction activity
- Noise
- Changed water flows in the Afon Cafnan
- Proposals for decommissioning and restoration.

5) Please refer to paragraphs 20.4.3 to 20.4.13 of [REP3-004].

IACC therefore does not consider that the Applicant's response provides any additional reassurance on this matter.

Further assurance that the relevant policy tests have been met would be provided by specific consideration of the concerns set out above.

3)

The Applicant's response [REP3-034] does not provide any further information than had previously been submitted within the ES.

Therefore IACC does not consider that this response provides any assurance that the policy tests on substantial harm to non-designated heritage assets of equivalent significance to scheduled monuments have been met.

The Applicant's proposed submission of interim fieldwork reporting is welcomed, but IACC reserves further comment until this material has been submitted to the examination and reviewed by IACC and GAPS.

Similarly, IACC reserves further comment on the effectiveness of the proposed mitigation until further detail of the scope and methods of this work has been submitted to the examination by the Applicant.

It is accepted that in principle a detailed written scheme of investigation could be an appropriate response, but it is not possible to comment on the effectiveness of such a scheme in practice until

further details of its scope and methods are available.

Further assurance that the relevant policy tests have been met would be provided by the provision of a statement of overriding need that sets out why the Applicant is unable to provide for the preservation of non-designated heritage assets of equivalent significance to a scheduled monument and provision of more detailed information on the scope and methods of further archaeological mitigation.

4)

The Applicant's response to the Welsh Government [REP3-034] sets out a commitment to make good any damage to listed buildings at Felin Gafnan. While this commitment is welcomed, it is a restatement of a legal obligation that would apply in any case, and any weight given to it should be limited.

It is more concerning that detail of how any effects on the structure of these buildings would be avoided has not been forthcoming.

The commitment to provide noise insulation at Llanbadrig is welcomed, but it is not clear that this would necessarily be feasible or would provide a discernible mitigation of the predicted effect.

Further assurance that the relevant policy tests have been met would be provided by the provision of further information including an undertaking to:

- Carry out a structural survey of the Grade II* listed Corn Mill in advance of works and carry out any remedial works required to ensure that the basic structure of the building is sound before works commence; and
- Provide specific details of monitoring locations, regimes and stand-down procedures in the event that structural damage is identified.

IACC also requires further assurance that measures to provide sound insulation at the church of St Padrig are deliverable given the sensitivity of the structure and appearance of the church and would provide an effective response to the predicted change.

5)

The Applicant's response to the Welsh government [REP3-034] does not contain any further information to that provided in the ES chapter. Therefore, it is not considered that this provides any assurance that appropriate mitigation has been provided.

While IACC considers that, in principle, amendments to lighting and screening could reduce harm through change to setting in this case, further assurance that mitigation would be effective would be provided by the submission of details of such measures by the Applicant.

FWQ2.6.3: Do the Applicant's responses to Historic Environment issues set out in Horizon's Response to the Welsh Government's WR [REP3-034] provide assurance that the technical and policy tests set out in EN1, EN6, Planning Policy Wales 10, Cadw's published Conservation Principles, Technical Advice Note (TAN) 24: Historic Environment and any other relevant legislation and guidance in respect of the Historic Environment and raised in the WR

[REP2-367] have been met? Is the proposed additional mitigation adequate? With particular reference to:

1) The substantial harm on Cestyll (Grade II) Registered Park and Gardens and Horizon's proposed mitigation strategy, including the request for a long term, secured and funded Conservation Management Plan covering the forthcoming statutory registered area boundary for Cestyll Gardens and including measures to mitigate impacts associated with the Grade II* Listed Felin Gafnan Corn Mill (Porth y Felin) (Asset 137), Grade II

Listed Corn-drying house at Felin Gafnan (Asset 141), and Grade II Listed Mill house at Felin Gafnan, Cylch-y-Garn (Asset 144) to be prepared with and approved by Cadw.

2) Exclusion of the temporary sewerage treatment plant located within Essential Setting of Cestyll Gardens from the Environmental Impact Assessment.

3) The potential impacts and mitigation strategy for buried archaeology within and around the WNDA?

4) The mitigation and restoration strategy for historic buildings during construction and operation, including the Grade II* Listed Felin Gafnan Corn Mill (Porth y Felin) (Asset 137), Grade II* Church of St Padrig (Llanbadrig) (Asset 26) (where additional mitigation has been requested), Grade II corn drying house (Felin Gafnan) (Asset 141), Grade II Mill House (Felin Gafnan, Cylch-y-Garn) (Asset 144) and Cafnan House and associated outbuildings (Asset 181) and whether a commitment to restoring any historic buildings which are subject to damage during the construction activities has been made and secured?

5) The setting impacts on Trelignath Burial Chamber Scheduled Monument, including the scope and extent of any landscaping and planting measures undertaken and how they help screen the setting of the two scheduled monuments from the Logistics Centre and the long-term restoration plan for the site on completion of the project.

If not, why not and what needs to be done to provide the assurance needed?

Interested Party	IP response to FWQ	Horizon Comments
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<p>Welsh Government</p>	<p>Whilst it is acknowledged that the construction of the Temporary Laydown Area will result in the direct physical harm to the Kitchen Garden, which forms part of the Registered Park and Garden, the Applicant has failed to acknowledge, to date, that the use is temporary and that they own that part of the site, and therefore can control the mitigation / restoration in the longer term.</p> <p>1) Given the residual substantial harm to Cestyll Gardens Registered Parks and Gardens, it is Cadw's maintained position that the mitigation measures outlined in the Environmental Statement are not adequate. Whilst Welsh Government / Cadw, in principle, welcome the recent commitment drafted in the revised S106 for a Conservation Management Plan (CMP), Welsh Government remains concerned in respect of the proposed mechanisms set out in the S106 for securing the delivery of mitigation. In particular, the reliance on third parties not party to the agreement or the proposed provision of funds for unrelated, unspecified off-site measures. Nothing that has been suggested so far by the Applicant, in relation to mitigation, directly related to the part of the Registered Park and Garden that will be directly impacted (e.g. Cestyll Kitchen Garden). This concern was raised in paragraph 13.3.8 of Welsh Government's Written Representation (REP2-367), and also paragraph 13.3.20 in relation to the need for specific landscape</p>	<p>The physical characteristics and functions of the Wylfa Newydd Development Area (WNDA) Development (the laydown area) during construction, operation and decommissioning are described in chapter D1 (Proposed development) [APP-120] and supporting appendices. As identified in section 7.3 of appendix D1-1 (Construction Method Statement) [APP-136] laydown areas are temporary infrastructure.</p> <p>The Order Limits for this part of the WNDA development are shown on WN0902-HZDCO-RLB-DRG-00002 [APP-009] and Horizon confirm that they own the land on which the laydown area would be located. Restoration of this area would be undertaken in line with the principles identified in the Landscape and Habitat Management Strategy (Rev 2.0) [REP2-039].</p> <p>1) Measures to mitigate effects on Cestyll Garden are identified in chapter D11 (Cultural heritage) [APP-130]. These measures include the following additional mitigation for the part of the Registered Park and Garden that will be directly impacted:</p> <ul style="list-style-type: none"> • Historic landscape survey. • Archaeological earthwork survey of any surviving remains of Cestyll House, Former Site of (Asset 132). • Level 2 historic building recording of surviving structures. • Translocation of 'Lady's Finger of Lancaster' apple trees from Cestyll Garden kitchen garden.
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measures to restore/enhance the former location of the Kitchen Garden.

2) In Horizon's response to Welsh Government's Written Representation, they provide further information regarding the assessments undertaken in relation to odour. However, Welsh Government's Written Representation (REP2-367), paragraph 13.3.25 also raised concerns regarding potential visual and noise impacts on Cestyll Gardens. Therefore, Welsh Government are not in a position to agree.

3) Please see Welsh Government's previous response to Q2.4.44. Consideration will need to be given to securing an appropriate mechanism through the S106 (or separate side agreement) to ensure that the commitments previously made by Horizon, to IACC, GAPS, and Cadw as part of an agreed archaeological strategy, in relation to completing post-excavation assessment, analysis and recording of the archaeological work undertaken to date is achieved. Discussions in relation to this matter are on-going and it is anticipated that clarification will be given on this matter before or at the ISH in March 2019.

4) Welsh Government understands from the updated s106 being submitted for Deadline 6, that the Applicant has now made provision to cover the cost of any damage that may be caused to these historic buildings during the construction period.

- Agree with National Trust, Cadw and GAPS the design of appropriate landscape measures to restore and/or enhance the former location of kitchen garden.

Please refer to Horizon's response to Q2.6.2 submitted at Deadline 5 (12 February 2019) for details of the securing mechanism for the Conservation Management Plan.

As noted in Horizon's Response to Written Representation - Welsh Government [REP3-034] due to the operational requirements of the Power Station it is unlikely that the kitchen garden can be reinstated at its former location. However, Horizon are reviewing what can be practicably achieved, and will provide a response at the March hearings, and/or at Deadline 7 (14 March 2019).

2) As noted paragraph 1.15.13 of Horizon's Response to Written Representation - Welsh Government [REP3-034] potential effects resulting from the temporary waste water outfall and temporary sewerage treatment plant were included in the assessment of effect on Cestyll Garden presented in chapter D11 (Cultural heritage) [APP-130]. Effects on the valley garden during construction resulting from noise and visual intrusion were identified in paragraph 11.5.39 of chapter D11.

3) As detailed in the revised Main Power Station Site sub-CoCP submitted at Deadline 5 (12 February 2019) Horizon will include a requirement in the DCO that prior to the commencement of the Power Station Works, a Cultural Heritage Mitigation Scheme for the WNDA will be submitted to and approved by IACC, in consultation with Cadw/GAPS. As such the Cultural Heritage Mitigation Scheme will be submitted post-consent of the DCO and prior to the start of construction.

	5) Welsh Government, in the Statement of Common Ground due to be submitted at Deadline 6, have identified that Requirement LC3 should include “in consultation with Cadw”.	Post-excavation assessment, analysis and reporting of the archaeological work undertaken to date will be included in this requirement.
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FWQ2.7.1: Comment on the Applicant’s assertion in its response to FWQ 7.0.1 in Horizons response to Interested Parties responses to the ExA’s First Round Written Questions [REP3-005] that:
‘while the IACC claim that “the worst-case scenario has not always been assessed with regards to impacts on historic landscape, landscape character and designations (eg on the AONB, Cestyll Garden and Dame Sylvia Crowe’s designed landscape)”’, this claim is not substantiated.’

Interested Party	IP response to FWQ	Horizon Comments
IACC	As noted in the IACC response to Q7.0.1 (REP2-153), HNP states (in para 10.4.3, ES Volume B) that a worst-case scenario has been made for each key visual receptor (in the assessment of magnitude) but the same is not stated in the methodology for landscape effects (paras 10.4.38 – 10.4.41 in ES Volume B). HNP states in their response to the IACC response to Q7.0.1 (REP3-005) that “both the landscape and visual assessment for each development is based upon a ‘worst-case’ development scenario” and it is clear that HNP considers the worst-case development scenario to be the maximum parameters of each development (heights, extents, timescales, etc). IACC are not disputing this. The Council’s concerns relate to the way the method has been applied which means that some	It is acknowledged that the IACC confirm they do not dispute that both the landscape and visual impact assessment for each development is based upon a ‘worst-case’ development scenario. Paragraph 10.4.3 of chapter B10 [APP-075] explains the parameter assessment approach. This applies to both the assessment of landscape and visual effects. As confirmed in the Horizon comments on the IACC response to FWQ7.0.1 [REP3-005], it is clearly explained in section 10.4 of each landscape and visual chapter that the worst-case scenario for each of the Wylfa Newydd developments has been assessed. The IACC also referred to paragraph 10.4.43 of chapter B10 [APP-075] in its response to FWQ7.0.1 [REP2-156]. It is in this paragraph that it is stated that “a worst-case assessment has been made for each key visual receptor.” This statement is made within the context of the paragraph which explains

of the most significant effects on the AONB, Cestyll Garden and Dame Sylvia Crowe’s designed landscape have not been expressly identified. These concerns were explained in IACCs LIR and/or answers to the ExA questions and, although HNP has provided further clarifications, we are still of the opinion that some of the most significant effects have not been acknowledged by HNP, as follows:

- AONB – in ES Appendix D10-6 (APP-197), HNP concludes that significant effects on the AONB during the site prep, construction and operational phases would occur only on the “directly affected area” (i.e. within the WNDA). The text in Chapter D10 states that there would be indirect effects but does not say whether these would be significant and concludes that indirect effects on the AONB overall (i.e. averaged over the whole AONB) would not be significant. HNP has now confirmed that references to “directly affected area” should read “directly and locally affected area”, i.e. HNP agrees that, in addition to the significant direct effects on the AONB within the WNDA, there would be significant indirect effects on the AONB during the site prep, construction and operational phases within a “locally affected area” of the AONB. However, HNP has not defined what they mean by “locally affected area” and so it is still not clear what parts/extent of the AONB HNP considers would be significantly affected by the development. In

how geographical extent of visual change has been considered in the visual assessment according to the type of viewer. A similar statement regarding assessment of geographical extent in relation to landscape character is included in paragraph 10.4.40 of chapter B10 [APP-075]. However, as effects on landscape character have been assessed based upon areas, as opposed to representative viewpoints, the assessment of geographical extent is based upon the proportion of the landscape character area or designation which would be affected.

In order to consider the geographical extent of effects on the Area of Outstanding Natural Beauty (AONB), separate assessment conclusions have been presented for the overall AONB and the AONB locally in each landscape and visual chapter.

Local effects of the Power Station on the landscape character of the AONB

Horizon confirm that references to the ‘directly affected part of AONB’ in chapter D10 of the ES [APP-129] should read ‘directly and indirectly affected area of AONB locally’. For further detail regarding this, reference should be made to the appendix A Environmental Statement Errata of the ES addendum due to be submitted at Deadline 6. This response provides further clarification about the assessment of indirect effects on the AONB locally and the extent of significant effects on the indirectly affected area.

Horizon considers that defining a specific area for the locally affected part of the AONB is not practical. This is because aspect, the undulating landform and other screening elements, such as vegetation, result in numerous variations in

order to agree mitigation and compensation measures within the AONB that are proportionate to the impacts predicted, then the extent of the AONB that would be significantly affected should be made clear. As explained in IACCs LIR, in our assessment, significant indirect effects on the AONB as a consequence of development within the Wnda would extend up to 5km into the AONB, hence the list of potential compensation measures identified in the LIR (Chapter 17). The same concern applies to the effects on the AONB of the AD sites (Site Campus, Parc Cybi, Off-site Power Station Facilities and A5025 off-line highways works) as explained in the LIR (Chapters 18, 20, 21 and 22) and also the Marine Works.

- Cestyll Garden – In the assessment of construction effects on Cestyll Garden (ES Chapter D11, paras 11.5.38 – 11.5.39 (APP-130) and ES Appendix D11-6) (App-213), the significant effects are stated to be as a result of the removal of the kitchen garden, the house plot and part of the Essential Setting, potential effects on vegetation (as a consequence of changes in air quality) and noise and visual effects (arising from the construction of the temporary causeway, breakwaters and MOLF). There is no reference to the removal of the gardener's cottage or the original driveway (both of which would also be lost under the current

the extent of influence that the Power Station would have on the surrounding landscape character. However, this issue is explored further as follows:

As explained in Horizons comments on the landscape section of chapter 17 of the Local Impact Report (LIR) [REP3-004], indirect *“effects can result from intervisibility with changes to characteristics within another ... area, which form an important or noticeable characteristic of the affected area, for example, changes to a ridgeline providing a backdrop to a character area or changes to the rural context of a character area by the introduction of uncharacteristic elements. However, just because there is intervisibility with a change, such as new development, from a potentially indirectly affected ... area, this does not necessarily mean there will be a change to its landscape character. For a change to occur there must be an appreciable change to a particular characteristic of the indirectly affected ... area.”*

Due to the different scale and nature of the proposals during the different assessment stages, the extent of significant indirect effects on the AONB would vary. For example, the extent of indirect effects of operation would be less than during Main Construction.

As stated in Horizons comments on the landscape section of chapter 17 of the LIR [REP3-004], *“Horizon does not agree with the ‘blanket’ IACC assessment that there would be significant effects on landscape character up to 5km from the Wnda until the end of operation.”* Horizons view on this is supported by the findings of the assessment of effects on local landscape and seascape character areas. As stated in paragraph 10.5.196 of chapter D10 of the ES [APP-129], in

proposals), or to the temporary waste water treatment plant (which would be located within the Essential Setting as shown on the Marine Licence application drawings but not shown on any DCO ES drawings and not referred to in ES Chapter D1) or to the potential for erosion arising from changes in the flow of Afon Cafnan. In the assessment of operational effects on Cestyll Garden (ES Chapter D11, para 11.5.54 and ES Appendix D11-6), the significant effects are stated to be as a result of the presence of the Power Station on the setting of the garden and the presence of the breakwater in the Significant View from the valley garden. There is no reference to the permanent loss of the kitchen garden, the house plot, the gardener's cottage and the original driveway and the proposed changes within the Essential Setting (landform, vegetation, etc). Therefore, it is IACC's opinion that the worst-case effects on Cestyll Garden have not been fully assessed. As with the AONB, it is important that the full extent and nature of the impacts are fully explained and understood so that appropriate mitigation and compensation measures can be agreed.

- Furthermore, the purpose of EIA is not just to identify significant "worst-case" impacts but also to identify ways to avoid such impacts and, as explained in the LIR, it is IACC's

relation to effects during winter year 1 of operation, the *"greatest indirect effects on the landscape character and setting of the AONB would be experienced within approximately 3km of the Power Station"*

The following sections provide further explanation of the maximum extent to which significant indirect effects on the landscape character of the AONB are likely to be experienced during the different assessment stages.

Site **Preparation and Clearance**

The assessment in chapter D10 of the ES [APP-129] concludes that during the Site Preparation and Clearance there would be a moderate adverse and therefore significant effect on the directly and indirectly affected part of the AONB locally. Chapter D10 of the ES [APP-129] states that *"The changes in landscape character would be largely confined to the Wylfa Newydd Development Area and immediately adjoining area."* As such, it is clear from the assessment that Horizon consider that the indirectly affected part of the AONB locally that would be significantly affected would be limited to within close proximity of the Wylfa Newydd Development Area due to the relatively low level changes to the landscape during the Site Preparation and Clearance and the containing effect of the surrounding drumlin landform. Further detail regarding the indirect effects on the AONB during Site Preparation and Clearance is provided in appendix D10-6 (landscape effects schedule) [APP-197] which states that *"The Site Preparation and Clearance would erode the predominantly rural nature of the landscape adjacent to the Existing Power Station and change the setting of the AONB locally."*

Main Construction

opinion that the direct impacts on Cestyll Garden could and should be avoided.

- Dame Sylvia Crowe’s designed landscape – as explained in the LIR, IACC considers the sensitivity of this landscape to be high (rather than medium) and that HNP has not fully appreciated the magnitude of the cumulative effects that would arise as a consequence of the Power Station and the grid connection (due to the extensive woodland clearance proposed by NGET). Again, the worst-case has not been fully assessed and, consequently, appropriate mitigation and compensation has not been proposed.

The assessment in chapter D10 of the ES [APP-129] concludes that during Main Construction the significance of effects on the landscape character of the directly and indirectly affected part of the AONB locally would be major adverse and therefore significant. Chapter D10 of the ES [APP-129] describes indirect effects on the AONB during Main Construction in paragraphs 10.5.49, 10.5.52 and 10.5.53, with further detail added in appendix D10-6 of the ES [APP-197], which explains that the Main Construction “*would contrast with the pastoral and generally undeveloped setting of the AONB and be incongruous with the relevant features and special qualities of the AONB, including indirectly affecting the perceived peace and tranquillity, expansive views and associated seascapes.*”

Horizon consider that the indirectly affected parts of the AONB locally to the east and west of the Wylfa Newydd Development Area that would be significantly affected during Main Construction would extend no more than approximately 4km to the west and 3km to the south-west from the Wylfa Newydd Development Area, as well as no more than approximately 1.6km from the Wylfa Newydd Development Area to the north-east. However, in practice the significance of temporary effects on the landscape character of the AONB within these extents would vary according to aspect and intervening features and would therefore not necessarily be significant throughout, as localised variations in landform and vegetation would limit the influence of Main Construction.

Indirect effects would be greatest closer to the Wylfa Newydd Development Area. As such, the actual residual effect on the significantly affected parts of the AONB locally during Main

Construction would not be major adverse everywhere as reported in the worst case assessment in chapter D10 of the DCO ES [APP-129].

This is reflected in the assessment of effects on the local landscape and seascape character areas (LLCAs and LSCAs) which extend beyond the Wylfa Newydd Development Area (reported in chapter D10 of the ES [APP-129]). Significant effects during Main Construction are identified on LLCA 1 North Drumlins, LLCA 8 Llanfairynghornwy, LLCA9 Mynydd y Garn, LSCA1 Cemlyn Bay, LSCA 2 Porth-y-pistyll, LSCA 6 Inner Cemaes Bay, LSCA 7 Porth Padrig and LSCA 11 Hen Borth within the AONB. The assessment is also consistent with the assessment of visual effects within the AONB, which identify significant effects at Viewpoint 9 Carmel Head, 3.6km west of the Wylfa Newydd Development Area, Representative Viewpoint 7 at Mynydd y Garn, 2.7km south-west of the Wylfa Newydd Development Area and Representative Viewpoint 29 near Ogof Gynfor, 1.6km north-east of the Wylfa Newydd Development Area.

Operation

The assessment in chapter D10 of the ES [APP-129] concludes that during operation, the significance of residual effects on the landscape character of the directly and indirectly affected part of the AONB locally would be major adverse during winter year 1 of operation and moderate adverse during summer year 15 of operation, and therefore significant throughout operation. Chapter D10 of the ES [APP-129] describes indirect effects on the AONB during operation in paragraphs 10.5.194, 10.5.196 (as quoted above) and 10.5.198, with further detail added in appendix D10-6 of the

ES [APP-197], which states that during winter year 1 of operation *“The large scale and massing of the Power Station buildings and infrastructure immediately adjacent to the AONB would be uncharacteristic of the generally pastoral landscape setting of the AONB and indirectly affect some of the special qualities, such as the perceived peace and tranquillity.”* Appendix D10-6 of the ES [APP-197] goes on to explain that during operation summer year 15 *“Despite the establishment of woodland, intervisibility with the large-scale Power Station buildings and infrastructure, MOLF and breakwaters ... would continue to indirectly affect some of the special qualities of the AONB...”*

Horizon consider that the indirectly affected part of the AONB locally that would be significantly affected during operation would extend to no more than approximately 1.5km to the west and 2.5km to the south-west of the Wylfa Newydd Development Area. Only a small part of the AONB to the north-east of the Wylfa Newydd Development Area would be significantly affected during winter year 1 of operation within the west-facing area near Porth Padrig, extending to no more than 1.6km from the Wylfa Newydd Development Area. However, the residual effect on this area would not be significant by summer year 15 of operation. Furthermore, as explained above the effect on the landscape character of the AONB within these extents would not necessarily be significant throughout.

As explained above, indirect effects would be greatest closer to the Wylfa Newydd Development Area. As such the actual residual effect on the significantly affected parts of the AONB locally during winter year 1 would not be major adverse

everywhere. The residual effect on the significantly affected parts of the AONB locally during summer year 15 would be moderate adverse.

The assessment of indirect effects on the landscape character of the AONB locally is consistent with the findings of the assessment of effects on local landscape and seascape character in chapter D10 of the ES [APP-129], which identifies significant effects throughout operation on LLCA 1 North Drumlins, LSCA1 Cemlyn Bay and LSCA 2 Porth-y-pistyll within the AONB, as well as a significant residual effect on LSCA 7 Porth Padrig during winter year 1 of operation within the AONB.

Local effects of the Off-Site Power Station Facilities on the landscape character of the AONB

As explained in Horizons response to FWQ 7.0.4 [REP2-375]:
“The Off-Site Power Station Facilities site is located outside the AONB but adjoins the AONB on its western boundary... Chapter E10 of the ES [APP-248] concludes that there would only be a minor adverse, indirect effect on the landscape character of the AONB within the locality, during construction, operation and decommissioning of the Off-Site Power Station Facilities, which would not be significant.”

Local effects of the A5025 Off-line Highway Improvements on the landscape character of the AONB

As explained in Horizons response to FWQ 7.0.4 [REP2-375]:
“With the exception of two small parts of sections 3 and 5 of the A5025 Off-line Highway Improvements ... the A5025 Off-line Highway Improvements would take place outside of the AONB, up to a distance of 1.5 km from its boundary... The

detailed assessment within appendix G10-3 [APP-338] concludes that the overall effect on the AONB during construction and operation year 1 ... would be slight adverse and therefore not significant, as impacts would be limited to predominantly indirect effects on localised parts of the designated area.”

As assessed in appendix G10-3 of the ES [APP-338], indirect effects on the landscape character of the Isle of Anglesey AONB associated with the A5025 Off-line Highway Improvements would mostly result from construction of Section 3 Llanfachraeth and Section 5 Llanfaethlu. This would be due to the proximity of construction activity, which would reduce the sense of tranquillity. The main indirect effects at Section 3 would be limited to a distance of between approximately 400m to 700m due to the intervening drumlin landform, buildings in Llanfachraeth and vegetation along the Afan Alaw and at The Rectory. The main indirect effects at Section 5 would be limited to a distance of no more than 500m due to intervening landform and containment by woodland at Carreglwyd. However, it is not considered that these indirect effects would be significant, as the existing A5025 and associated moving traffic borders the AONB in these locations and therefore already influences the AONB in terms of the perception of tranquillity and visual amenity.

As assessed in appendix G10-3 of the ES [APP-338], whilst construction works for the A5025 Off-line Highway Improvements (all sections) would be apparent within the AONB, it is unlikely that this would result in a change in the perception of landscape character at such distances, especially in the context of the existing A5025 and moving

traffic. It is not therefore considered that indirect effects on the landscape character of the AONB would be significant during operation as the new sections of road would appear similar in character to the existing A5025. Furthermore, parts of Sections 3 and 5 would be located further away from the AONB than the existing A5025 and would be partially screened by buildings in Llanfachraeth and Llanfaethlu.

Local effects of the Logistics Centre on the landscape character of the AONB

As explained in Horizons response to FWQ 7.0.4 [REP2-375]:
“Although the site of the Logistics Centre lies within the AONB, it is situated within an area allocated as a Safeguarded Employment Site in the adopted Anglesey and Gwynydd Joint Local Development Plan 2011 - 2026 (Anglesey and Gwynydd, 31 July 2017) on the edge of an existing industrial area on the south-west side of Holyhead... Chapter H10 of the ES [APP-364] concludes that although there would be a moderate adverse effect on the directly affected part of the AONB locally to the Logistics Centre during construction and operation, the overall effect on the AONB would not be significant.”

The Logistics Centre lies on the edge of the Isle of Anglesey AONB, within a LANDMAP Visual and Sensory Aspect Area characterised as “Aluminium Works”; As explained in paragraph 10.2.5 of chapter H10 of the DCO ES [APP-364] *“there are ... unlikely to be any significant effects on landscape character and visual receptors beyond 2km”* based on the maximum extent to which there are likely to be views of the Logistics Centre from the surrounding landscape. In reality, the influence of the Logistics Centre on landscape

character will diminish with increasing distance and significant indirect effects on landscape character would be limited to a much smaller geographical extent than 2km; Figure H10-1 in the volume H of the Figure Booklet [APP-383] shows that theoretical visibility within a 2km radius from the Logistics Centre is predominantly limited to approximately 1.5 km to the east and 1km to the south and west, including the large scale existing industrial site at Penrhos to the north-east. As explained in paragraphs 10.5.21 and 10.5.43 of chapter H10 [APP-364] in relation to construction and operational effects, *“the local character area’s undulating topography and surrounding vegetation would limit effects on the wider landscape.”* Figure H10-5 [APP-383] shows that the distribution of representative viewpoints is very limited with most views occurring in close proximity to the Logistics Centre to the north-west and south-east. Furthermore, whilst there would be some indirect effects on the landscape character of the AONB locally, these effects need to be considered in the context of the existing industrial area and the future baseline of the allocated employment site. Indirect effects on the landscape character of the AONB locally are therefore likely to be very limited within the existing landscape context and any significant effects are likely be limited to the part of the AONB in close proximity to the Logistics Centre site.

Effects on Cestyll Garden

An assessment of the effect of the removal of the Gardner’s Cottage (Asset 134) was presented in appendix D11-6 of the ES (effects on heritage assets) [APP-213]. Neither this partially demolished historic building or the trackway that marks the route of the former driveway make a significant

contribution to value of Cestyll Garden, and while their removal would contribute, it would not increase the residual significance of effect presented in chapter D11 of the ES (cultural heritage) [APP-130] (assessed to be major adverse during construction and operation, and moderate adverse during decommissioning).

As identified in appendix D11-6 of the ES [APP-213], historic building recording of the Gardner's Cottage (Asset 134) has already been undertaken and the route of the former driveway will be included in the historic landscape survey identified in mitigation in paragraph 11.6.15 of chapter D11 of the ES [APP-130]. Please also see Horizon's response to Q2.6.3.

For the justification for the effects on Cestyll Garden, please refer to the response provided in REP3-004, paragraphs 17.5.17 to 17.5.55.

In relation to the packet sewage treatment plant, please refer to the response provided by Horizon in paragraphs 1.15.12 and 1.15.13 in REP3-034 and Horizon's response to Q1.0.1 of the Examining Authority's First Written Questions [REP2-002] and Q2.6.3.

With regard to Dame Sylvia's landscaping please refer to the responses provided by Horizon in paragraphs 17.5.56 to 17.5.62 and paragraphs 17.5.98 to 17.5.102 of REP3-004.

FWQ2.8.1: Is NRW content with the Applicant’s approach to controlling marine noise impacts for operations other than piling, in the light of no guidance or best practice being available?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>As stated in section 2.3 of this Deadline 5 response, and depending on the outcome from the modelling clarification sought, NRW consider that best practice piling measures may not be sufficient to mitigate injury impacts on marine mammals as a result of some activities. The proposed mitigation for marine mammals may not be effective for the distances at which some of the new modelling predicts that hearing injury in cetaceans could occur. NRW may advise implementing additional mitigation that goes beyond the standard JNCC noise mitigation protocols. This may include the reduction of noise at source by utilising lower breaking/hammer energies, using noise screens (e.g. bubble curtains), using alternative methods, managing construction planning/timing. Additionally, the use of Acoustic Deterrent Devices (ADDs) might be suitable to clear the area (likely PTS zones) of marine mammals. However, ADDs introduce additional noise into the marine environment and would need to be assessed and carefully managed, particularly in combination with other noisy activities which might create undue disturbance to marine mammals.</p>	<p>The noise modelling results provided at Deadline 4 [Appendix 2-1, REP4-009] contained errors in the noise levels and ranges to effect for the SPL_{peak}. This report has been updated and re-submitted in support of the response to NRW's Deadline 5 Submission.</p> <p>In addition, as stated in Horizon’s Deadline 4 submission in response to the Biodiversity Issue Specific Hearing [REP4-009], a Marine Mammal Mitigation Plan is being developed to support the Marine Licence and will be agreed with NRW as discharging authority. This will ensure that no marine mammals are within the PTS range for rock-breaking prior to such works commencing.</p>

FWQ2.8.4: The Applicant provided an Ecological Enhancements Mitigation Report at D4 which includes an options appraisal for ecological enhancement and revised measures to reduce the effects on rocky reef habitat from a moderate adverse to minor adverse effect. Is NRW and NT content that the mitigation would reduce the effects to minor adverse?

Interested Party	IP response to FWQ	Horizon Comments
eNGOs	<p>3.1 National Trust has been concerned about Horizon’s limited response to mitigating the loss of 7.6ha of intertidal biotopes (habitats) and 23.5ha of subtidal biotopes resulting from the construction of the harbour, MOLF and breakwaters (as summarised in REP2-319). An additional 5.6ha of subtidal biotopes will be affected by the cooling water outflow (discussed at the Examination on 10 January 2019). National Trust has been requesting additional mitigation measures to ensure the delivery of Horizon’s objectives of biodiversity net-gain for its on-site mitigation. These measures would also help to safeguard the marine biotopes on the National Trust shoreline between Felin Gafnan and Trwyn Pencarreg. This must include actions to reduce the risk of new intertidal and subtidal surfaces becoming colonised by Invasive Non-Native Species (INNS).</p> <p>3.2 Following National Trust, eNGOs and NRW concerns about the impacts of offshore works, Horizon has now provided a marine Ecological Enhancements Mitigation Report at D4 (REP4-023). National Trust welcomes the new proposals in this report which indicate that Horizon has recognised the serious ecological impact of their</p>	<p>Additional information relating to the effects of the cooling water discharge on coastal processes has been provided as an appendix to Horizon’s Deadline 5 Responses to actions set in Issue Specific Hearing on 10 January 2019 (appendix 1.3-effects of cooling water discharge on tidal vectors). This included a cumulative benthic assessment (section 1.4 of appendix 1.3) which concluded no cumulative impact to benthic habitats of conservation importance. Therefore, the area requiring mitigation remains unchanged from that stated in the DCO application (20.0 hectares).</p> <p>Following a consultation meeting held with NRW on the 4 February 2019, Horizon has carried out further work to explore several options recommended by NRW. This information has been submitted into Examination at Deadline 6 in the Statement of Common Ground with NRW.</p> <p>Horizon’s commitment to deliver ecological enhancement mitigation, marine restoration and an adaptive monitoring and management programme is secured in the DCO application within the Marine Works sub-CoCP submitted at Deadline 5 (12 February 2019).</p> <p>The aim of the mitigation is to provide sufficient information to demonstrate that Horizon has appropriately considered the impacts of the Project footprint within the marine environment and has made satisfactory commitment to mitigation to reduce the significance of effect to subtidal and intertidal habitats of</p>

construction and operations in the marine environment. Additional ecological enhancements are proposed (summarised in section 11, page 75) and there is better explanation than before as to why further mitigation would be difficult to deliver. National Trust accepts that given the current development proposals, this is now an appropriate response to ecological mitigation and enhancement in the marine WND A (DCO) area. National Trust would still wish, however, to see a greater commitment to environmental monitoring, especially during construction and during the restoration of the temporary causeway.

3.3 The proposed ecological enhancement of the 16m³ pre-cast concrete units, together with the other mitigation proposals, will help to mitigate the loss of rocky reef habitat. National Trust does not accept, however, that this will reduce the overall impact of the development from moderate adverse to minor adverse. This is because the habitat loss from the footprint of the development (31.1ha, less 3.3ha of new habitat) remains the single biggest impact of the project. The new ecological enhancements and the 4.0ha restoration of the seabed and shoreline following the removal of the temporary causeway are both helpful and welcome, but are unable to fully mitigate for the initial loss of intertidal and seabed habitats and the biodiversity they support.

3.4 The Ecological Enhancements Mitigation Report (REP4-023) has more detail on what will

conservation importance from a moderate adverse significant effect to a minor adverse non-significant residual effect. Within the constraint of the WND A Order Limits, it is not physically possible to fully offset the area of habitat loss under the footprint of the Marine Works. Therefore, to reduce net loss as far as practicable, the enhanced ecological enhancement mitigation proposal has been focused on improving quality as well as maximising the spatial extent of enhancements over the greatest practical extent.

It is important to recognise that the approach taken to assessing marine habitat loss under the footprint of the Marine Works in the DCO application was extremely precautionary. The areal extent of impacts included 6.7ha of subtidal habitats of conservation importance which falls within and adjacent to the dredge area. Effects in this area will, in reality, be temporary in nature with recovery highly likely to occur. The area adjacent to the dredging footprint to the north (and characterised by muddy sands) may not be impacted at all. Additional hydrodynamic modelling work which has been carried out specifically to inform the detailed design of the Marine Works has shown that hydrodynamic conditions within the harbour will remain dynamic much like present conditions. Therefore, whilst Horizon agrees with NRW that the exact same communities are unlikely to recolonise the impacted area, similar communities would be expected. Critically, these would restore ecosystem function and processes which are characteristic of broad biotope complexes. Considering the area gained from the proposed mitigation and restoration plan, as well as the potential recovery of a further 6.7ha, the net loss of intertidal and subtidal habitats of conservation importance would be significantly reduced from 20.0ha to 6.1ha. Horizon considers this sufficient to reduce the

	<p>be in the Shoreline Protection and Restoration Method Statement, particularly about the temporary causeway restoration (paragraphs 7.2.1 - 7.2.20, pages 31-37). This is an ambitious proposal and it is well worth attempting albeit with uncertain outcomes in terms of the creation of particular target biotopes. However, the text is silent on any potential impacts of this restoration on the adjoining shoreline owned by the National Trust, concerning water pollution impacts resulting from the removal of the causeway and from the biotope creation works (the shoreline's proximity is shown well in Figure 3, page 34). The protection of its shoreline is of great concern</p>	<p>significance of the residual impact from moderate to minor adverse.</p>
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FWQ2.8.10: Is NRW content with the conclusion drawn by the Applicant that as a result of the five requests for non-material changes, the cumulative assessment for marine mammals does not change?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>The noise assessment for marine mammals has changed and depending on further clarification from the applicant, NRW now believe that the cumulative assessment might change.</p> <p>There is the potential for injury and disturbance to marine mammals from unmitigated noisy activities which could result in an offence of injury to EPS.</p> <p>An assessment of concurrent noise sources is presented in the new noise modelling document (Appendix 2-1) (Table 16) (shared informally with</p>	<p>The modelling of cumulative noise presented in Horizon's response to the Issue Specific Hearing submitted into Examination at Deadline 4 [REP4-009] was undertaken based on a combined noise signal from all operations at a single location, i.e. the noise signatures from each activity were combined to create a single source level and frequency spectra.</p> <p>The noise signal from rock breaking has been incorporated into the combined source level used in this modelling. The results presented in Table 16 (Appendix 2-1 in [REP4-009])</p>

NRW – see section 2.3 of this NRW Deadline 5 response) and models combined noise using non-impulsive criteria from rotary drilling, percussive drilling, cutter- suction dredging and rock breaking operations occurring simultaneously. The results presented in this table imply that PTS onset in cetaceans would occur at distances of less than 160m but it is not clear how the activities were spatially arranged during the modelling or whether they represent the distances between activities likely to occur on site. Nor is it clear how rock breaking was incorporated in the modelling when this has only been modelled using impulsive criteria. NRW therefore seeks further clarity on how this ‘cumulative assessment’ has been carried out and seeks information on its interpretation. The Request for Non-Material Change – Working Hours [REP4-012] states in Table 2-1 that all marine piling is proposed between 07:00-18:00 hours (DCO application), whilst Table 2-2 outlines the change that percussive piling specifically is proposed to be conducted between 07:00-19:00 hours. However, it was NRW’s understanding that percussive piling was not going to be utilised. The technical note suggests that percussive piling was part of the DCO application however we request confirmation as to whether that is the case and that those impacts have been assessed in the ES and Shadow HRA. The use of percussive piling, if not already assessed, may generate new or different significant

provide the range to effect based on the criteria for non-impulsive sounds. As stated in Appendix 2-1 of [REP4-009], the range to effect criteria for impulsive sound used are those presented in Tables 12 and 13 (Appendix 2-1 in [REP-009]).

The Request for Non-Material Change - Working Hours [REP4-012] refers to marine piling. Horizon confirms that there will be no piling operations within the wet marine environment (i.e. underwater). The piling operations referred to in table 2-1 and table 2-2 of the Request for Non-material Change – Working Hours [REP4-012], refer to operations to be undertaken in the dry, for which airborne noise modelling has been completed, and assessments for pinnipeds provided in chapter D13 [APP-132] of the Environmental Statement. Based on the fact that the RFNMC for working hours [REP4-012] will not affect marine operations, Horizon does not consider that there will be an effect on the cumulative assessment conclusions set out in the ES and the Shadow HRA.

	<p>environmental effects. NRW request confirmation on whether this construction method will be used and whether it has been modelled and assessed.</p> <p>NRW advise further clarification from the Applicant is required on points raised above in order to conclude whether the non-material changes will affect the cumulative assessment.</p>	
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FWQ2.9.5: Section 2.5 of the Wylfa Newydd Code of Operational Practice Rev 2.0 [REP2-037] refers to the obtaining of an Environmental Permit for the operation of the Power Station. In relation to the Mitigation Route Map (Rev 2.0) [REP2-038], is the scope of NRW's role (and that of the ONR) in the regulation of emissions from the Power Station clearly set out?

Interested Party	IP response to FWQ	Horizon Comments
NRW	<p>The Mitigation Route Map has been prepared by the applicant to demonstrate that all necessary controls and mitigation for the project have been identified and secured. NRW consider the Route Map could be strengthened and further clarity provided by the applicant clearly setting out the scope of NRW's role in regulating discharges, emissions and marine licensable activities.</p>	<p>The Mitigation Route Map is not a securing document within the DCO suite of control documents. It is to assist readers navigate between the DCO documents linking where required mitigation in assessment reports (such as the Environmental Statement) can be seen secured in DCO control documents (such as the Code of Construction Practice and Code of Operation documents).</p> <p>With respect to NRW's scope as a regulatory authority, Horizon has had good engagement meetings with NRW since the January hearings, on such matters as ecological enhancement of the marine environment, coastal processes mitigation and monitoring, and European Species Licences. From those meetings, discussions have been had over which</p>

mitigation controls are covered by the remit of other environmental regulatory regimes and whether that detail should be drawn into DCO control documents. *Overarching National Policy Statement for Energy (EN-1)* at 4.10 sets out the distinction between planning systems and pollution control systems (and other environmental regulatory regimes). It goes further to add planning systems “*should act to complement but not seek to duplicate*” pollution control systems and other environmental regulatory regimes. To help clarify this issue, Horizon has chosen to write into the Code of Construction Practice and Code of Operational Practice documents submitted at Deadline 5 (12th February 2019) updates where mitigation detail would subsequently be provided by, for example, Environmental Permit, European Protected Species licence, or Marine Licence, each to be approved by NRW.

To conclude, Horizon does not believe it is the place of its Mitigation Route Map to set out the scope of NRW’s role as regulatory authority for other environmental regulatory regimes, but control documents have referenced where that role would apply to complement those pollution control systems and other environmental regulatory regimes.

FWQ2.10.4: Given the cost of accommodation on Ynys Mon, how would the TWA be priced to ensure that it would be affordable and the first choice for the majority of workers?

Interested Party	IP response to FWQ	Horizon Comments
Land and Lakes	<p>It should be noted that the Land and Lakes scheme has always been costed as equivalent to the prevailing NAECI subsistence rate¹ for a fully serviced bed night (subject to receiving a contract for minimum number of bed nights across the project).</p> <p>In practice this means that the cost to workers is nil as their received NAECI allowance would be equivalent to the cost of their accommodation at L&L. No information has been provided by HNP as to the cost to workers of residing at the Site Campus. The cost to HNP remains static, save for transport, as all non-home workers are entitled to the same NAECI rate.</p>	<p>The final sentence of Land & Lakes response “The cost to HNP remains static, save for transport, as all non-home workers are entitled to the same NAECI rate” is incorrect and misleading.</p> <p>Horizon provided a detailed response to the Examining Authorities’ further written questions reference including this question and 2.10.11 which provides a detailed cost analysis of an on-site TWA versus the L&L proposed alternative offsite facility.</p> <p>It is incorrect and misleading to state that “save for transport the costs remain static”.</p> <p>Under NAECI the Trade Unions will argue that because no alternative closer accommodation is available, workers housed in an offsite campus should be eligible for travel time between the accommodation and the WNDA site. NAECI provisions for payment of travel time and travel cost would therefore most likely apply. If buses were provided then only the travel time element would apply.</p> <p>Horizons response to Q2.10.11 demonstrates that Horizon would be exposed to significant additional costs if an offsite campus was provided as an alternative to the proposed on-site campus.</p>

FWQ2.10.7: What should the minimum occupancy levels for the TWA be and how should they be secured?

Interested Party	IP response to FWQ	Horizon Comments
<p>Welsh Government</p>	<p>Welsh Government, Isle of Anglesey County Council (IACC), Gwynedd Council and Conwy Council submitted a Joint Housing Paper at Deadline 4. This note can be found at Appendix A of Welsh Government’s Submission (REP4-053). Paragraph 1.22 of the Joint Housing Note states that “there should be a commitment through the DCO (S106) to monitor occupancy to ensure that it does not fall below 85% for any phase at any time for a monitoring frequency to be determined”. Welsh Government’s expectation is that all 4,000 bed spaces are occupied, but as highlighted in the Joint Statement, WG, IACC and GC have indicated that they could accept an 85% threshold.</p> <p>Welsh Government’s position is that pursuant to the section 106 agreement, Horizon should use reasonable endeavours to achieve 100% occupancy (the transport assessment work has assumed this and 15% of workers equates to 600 workers at peak), with contingency measures being triggered should this fall below 85%. The contingency measures and, ultimately, financial penalties in the event of repeat breach, need to be sufficient to incentivise compliance (if necessary by prompting the Applicant to significantly reduce the cost to workers of staying at the TWA). Welsh</p>	<p>It is Horizon’s intention to maximise the use of the Site Campus at all stages of construction. Not to do so would seriously impact on the financial viability of the campus and would be costly to Horizon and the campus operators. It is clear that Horizon's preferred strategy is to house as many workers as practical as close to the site and practical to ensure worker wellbeing and increase certainty of workers accessing to the Main Site without unforeseen delays.</p> <p>During peak construction, and for a large proportion of the time the campus will be open, Horizon anticipate the campus will be as close to 100% occupied as possible. However, the inevitable turnover of workers on the Project, cleaning and maintenance periods, make it almost impossible to achieve 100% occupancy for any long periods of time; it is therefore meaningless for Horizon to accept this as a commitment.</p> <p>Instead Horizon has agreed with IACC that an average occupancy rate of the Site Campus of 85% is appropriate. Failure to meet this will require Horizon to take measures to incentivise take up of the Site Campus. Alongside this, the Accommodation Contingency Fund can be released where there is stress on the accommodation market in the community. This is set out in schedule 5 of the draft DCO s106 agreement. Final agreement of the wording of this schedule is underway with IACC, and there will be a further meeting also with Welsh Government.</p>

Government has suggested drafting on this to the Applicant for the section 106 agreement.

FWQ2.10.12: At the ISH on 7 January 2019 you indicated you considered the need for a Requirement limiting the number of workers on site until the TWA became available. Can you provide further detail, including suggested drafting of a relevant provision and an explanation regarding the proposed threshold levels?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The IACC have discussed and agreed this in principle with Horizon. However, this agreement has not translated into the latest Phasing Strategy [REP4-014] or into a DCO Requirement.</p> <p>The latest Phasing Strategy [REP4—014] proposes exceedance thresholds for each phase of the site campus. In summary, these consist of:</p> <ul style="list-style-type: none"> • Deliver the first 1,000 beds of Site Campus prior to exceedance of 2,200 non- home based workers; • Deliver further 1,000 beds prior to exceedance of 4,200 non-home based workers, and • Deliver the final 2,000 bed spaces prior to the exceedance of 6,700 non-home based workers. <p>On request of the ExA, the IACC have provided comments to Horizon on the revised Phasing Strategy that will be submitted by Horizon at Deadline 5. The IACC are not satisfied with the proposed exceedance thresholds as they would</p>	<p>Horizon’s revised Phasing Strategy will ensure the first bedspaces are provided in advance of the non-homebased (NHB) workforce exceeding 2,200.</p> <p>The delay in the project does not mean that Horizon will be able to commit to delivering the first phase any earlier, as this will always be dependent on a financial investment decision. We will continue to engage with IACC and WG on the Phasing Strategy as we move towards D7.</p>

result in an unacceptable impact on the existing private accommodation sector. For example, Horizon have stated throughout their DCO application that the peak construction workforce will be 8,500. If 2,000 of these are “local” home based workers, then 6,500 of these would be non-home based. This would mean that this exceedance threshold would never be triggered.

In response to the ISH Action Points, the IACC jointly prepared a paper with the WG and GC on housing and accommodation [REP4-034 Annex 1.1]. In this response, the IACC presented an alternative Phasing Strategy that would reduce pressure on the private sector and allow a more evenly balanced programme for additional supply of new accommodation to be achieved.

Horizon’s strategy is based upon first absorbing vacancies from the private rental and tourism sector, and only then constructing TWA: over 80% of the identified 3,000 bedspaces in the KSA would be absorbed from the private sector by Y4Q4, when the first 1,000 bedspaces in TWA come on-stream. Horizon have focussed on meeting peak demand, and have failed to consider the impact on the housing and tourism markets of the very rapid build-up of workforce numbers. Horizon would require 1,600 bed spaces in the twelve months of Y4, with 1,200 of these in the six months of Y4Q3 and Y4Q4, and 700 of these within the single quarter of Y4Q4.

The alternative proposal by the IACC, WG and GC can be summarised as:

- 500 bedspaces by Y3 Q3
- 1,000 bedspaces by Y4 Q2
- 2,500 bedspaces by Y4 Q4
- 3,000 bedspaces by Y6 Q3
- 4,000 bedspaces by Y7 Q1

This more incremental build-up of TWA would result in less impact on the private accommodation (particularly in the years leading up to peak) and would better align with the build-up on the non-home based construction workforce. However, as discussed at the ISH on the 7th January, Horizon have confirmed that they cannot deliver the first 1,000 bedspaces until Y4 Q4.

Other than citing commercial and procurement reasons, Horizon have not provided any evidence that they cannot deliver the Site Campus earlier. As stated by the IACC at the ISH, Anglesey should not have to bear the risk and effects of thousands of non-home based construction workers flooding the existing private accommodation market whilst Horizon are constructing the TWA.

Furthermore, given the recent announcement by the Applicant confirming the delay of the project, this provides even more time for Horizon to develop and deliver to the alternative phasing strategy.

FWQ2.10.13: At the ISH on 7 January 2019 you raised concerns regarding the actual turnover/availability of stock in the private rented sector indicating you thought it was less than that suggested by the Applicant. What evidence do you have to support this claim?

Interested Party	IP response to FWQ	Horizon Comments
GCC	<p>Horizon’s methodology for calculating ‘headroom’ in the private rented sector has over calculated availability and would require nearly a quarter of all net vacancies in the sector being rented by construction workers over the five years up to Y7Q4 this would have an adverse impact upon demand and exceeds the capacity available.</p> <p>Horizon have failed to consider the impact on the housing and tourism markets very rapid build -up of workforce numbers, requiring 1,600 bed spaces in the twelve months of Y4, with 1,200 of these in the six months of Y4Q3 and Y4Q4, and 700 within the single quarter of Y4Q4 which is unrealistic.</p> <p>Horizon are relying entirely upon market forces to meet the demands for delivering additional private sector accommodation. While the Joint Local Development Plan (covering Gwynedd and Anglesey) has allocated sufficient housing sites to meet jobs led growth, there is little likelihood that private house builders will be able to respond in the time between DCO implementation and when the demand will increase during Y4.</p> <p>Horizon have not provided any data on the length of time that different sections of the workforce will be present on site, nor level of churn making it</p>	<p>Horizon acknowledges (as has GC) that data in this area are limited. This is why Horizon has proposed its plan, monitor and manage approach alongside a multi-million pound accommodation capacity enhancement contribution as part of the DCO s.106 agreement.</p> <p>Horizon’s assessment of availability explicitly includes both an assessment of the normal operation of the housing market and the demands placed on the sector by the increase in workforce over time.</p> <p>The approach does not solely rely on market forces. The accommodation capacity enhancement contribution ensures more accommodation is delivered.</p> <p>The quantum and operation of the accommodation capacity enhancement contribution is now largely agreed with IACC.</p>

	impossible to estimate the tenure split between potential purchasers and renters, and have underestimated the likely numbers of partners and dependents, with associated implications for family housing, education, health and other sectors.	
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FWQ2.10.13: At the ISH on 7 January 2019 you raised concerns regarding the actual turnover/availability of stock in the private rented sector indicating you thought it was less than that suggested by the Applicant. What evidence do you have to support this claim?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The parties acknowledge that there are no official statistics which give accurate data on the number of properties in the PRS or on the numbers of lettings and the origins of tenants. Estimates must therefore be made using the limited available data sources.</p> <p>The Horizon submission</p> <p>Horizon argue that:</p> <ul style="list-style-type: none"> • at any one time 11% of the PRS is vacant (from the English Housing Survey 2014/15) • the % of households in the PRS who did not live at the same address one year earlier is the measure of ‘churn’ within the sector. <p>Horizon use the ‘worst case’ scenario of Gwynedd at 42% to illustrate the calculation (the comparable figure is 35% in Anglesey).</p>	<p>IACC’s response notes that the parties agree that data in this area are limited. This is why Horizon has proposed its plan, monitor and manage approach alongside a large Housing Fund as part of the s.106. IACC also notes that it is working closely with Horizon in s.106 discussions to ensure that the Capacity Enhancement Contribution is a sufficient to increase housing supply to mitigate against impacts on the private accommodation market. Horizon believes that agreement has now been reached with IACC that the fund is capable of dealing with the range of uncertainty inherent in the data.</p> <p>However, in its response to the question, IACC has misunderstood Horizon’s assessment. Horizon has not misunderstood the EHS assessment - the methodology specifically takes account of properties that are between lettings. As IACC’s response summarises, at any one time around 11% of properties are vacant, but some of these are in the process of people moving in and/or out. This has been</p>

- That a 'churn' rate of 42% implies that 3.5% of properties are re-let each month (42% / 12 months)
- and that this implies that the difference between this re-let rate of 3.5% and the vacancy rate of 11%, equivalent to 7.6% of the PRS stock, suggests a 'headroom' capacity of 1,649 bedspaces (21,700 bedspaces across the KSA times 7.6%).

The IACC, GCC and WG submission:

The Horizon approach is incorrect, for the following reasons:

- The English Housing Survey gives estimates of the actual number of movements within the PRS stock, which show that in England a total turnover rate of 33.44% is composed of the following elements:
- 19.11% of all moves were within the PRS itself, with tenants moving from one address to another (these moves are self balancing, and create no net vacancies)
- 4.87% of moves were into the PRS by new households forming (and therefore taking up net vacancies)
- 3.4% of moves were into the PRS by existing households moving from owner occupation or social housing (and therefore taking up net vacancies)
- 6.06% of moves were by former PRS tenants leaving the sector for owner occupation or

estimated by looking at annual churn and averaging that to a month (ie 42% turnover in a year is an average of 3.5% per month). The headroom calculation therefore represents properties that are vacant but not in the process of being let. IACC's focus on net lettings and the fact that the market "clears" does not capture all relevant data. Even though the market "clears" (in that properties that come onto the market are let at some point), it ignores the evidence that there remain significant numbers of properties vacant at any point in time, that there are long void periods and that rents on Anglesey are falling (see p.3 of Appendix E of the Welsh Government Written Representation [REP2-367]).

Implicit in Horizon's assessment is an assumption that the temporary vacancy between lettings lasts around a month. That is longer than the typical void period in the most active markets in the UK (typically two to three weeks). Increased occupation of housing can be achieved by bringing void periods down and having more housing occupied for longer each year.

social housing (and therefore creating vacancies)

- The difference between the number of tenants leaving the sector (6.6%) and the number of new lettings (4.87%+3.4% = 8.27%) represents stock becoming vacant by the dissolution of households on death or relationship breakdown, and the net increase in the PRS stock by landlord purchases.

These numbers can be applied to Anglesey, and compared to the migration numbers from the Census (also used by Horizon), in the table below:

The numbers of movers into and out of the PRS are not of course the same as the migration flows within the island and outside, but the overall numbers suggest that the order of magnitude is broadly comparable.

The use by Horizon of a vacancy rate of 11% across the PRS appears to misunderstand the EHS estimate. The EHS (2014/15) explains that vacancies include properties that are in between lets, rather than standing empty for lack of a tenant:

Vacant homes were more common in the private rented sector, at around 10%, although the rate was slightly higher in 2008 (13%). The higher prevalence of vacant homes in the private rented sector may partly be related the higher turnover of properties in the private rented sector. This is because properties in between lets are

classified as vacant on the EHS.

(Source: English Housing Survey Housing Stock Report, 2014 para 1.23 p12)

Conclusion

The Horizon methodology is incorrect. Net lettings (to new households and existing households moving from other tenures) are around 8% of the total PRS stock each year.

The Horizon gravity model estimates that demand for 900 bedspaces in the PRS would probably be met with 674 in Anglesey and 226 in Menai Mainland.

There are some 375 net lettings each year in the PRS on Anglesey: all of these are currently being let either to local people or to people wishing to move to Anglesey. Demand from the Wylfa Newydd workforce would be in addition to existing demand (which is clearing the market at current rates of supply). The predicted take up of PRS lettings by the Wylfa Newydd workforce occurs over the four years from Y3Q3 to Y7Q3, which would require around 70 properties per annum, or nearly one in five of all PRS lettings over those years.

The IACC are working closely with Horizon in s.106 discussions to ensure that the Capital Enhancement Contribution is a sufficient to increase housing supply to mitigate against impacts on the private accommodation market.

FWQ2.10.18: 1) What could be the effect on accommodation availability on Ynys Mô if the provision of the TWA was delayed?

2) If the effect was thought to be negative would there be alternative arrangements or would there be a need for a Requirement to manage this situation?

3) If a Requirement was considered necessary please provide suggested wording.

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>1. Horizon Workforce Accommodation Strategy relies upon housing over 2,400 non home based Wylfa Newydd workers over a two year period (Y3Q1 to Y4Q4) before the TWA comes on stream. The housing and tourism markets are expected to bear the brunt of this pressure, with numbers in the private sector rising to 2,855 by Y5Q3. If there is a delay in the delivery of the TWA (as experienced in Hinkley Point C), this impact could be significant. Even a delay on 1 quarter would see an additional 500 workers seeking accommodation in the private market. The IACC have already indicated [REP2-068] that 520 additional units are required to meet the additional demand by Y4 Q4. There is no capacity to absorb any more workers into the private market without having significant adverse impacts (e.g. displacement, increased risk of homelessness, rent increases, impacts on tourism etc.).</p>	<p>1. Horizon's revised Phasing Strategy will ensure the first bedspaces are provided in advance of the NHB workforce exceeding 2,200 so that any delay would be matched by a delay in increasing the NHB workforce. The intention is then to build the campus incrementally with the Phasing Strategy securing points at which the next 1,000 and final 2,000 beds are delivered. The Site Campus is an essential part of Horizon's Workforce Accommodation Strategy and will be important in attracting workers to the project so Horizon wants to ensure the later phases are delivered in line with the needs of the workforce</p>

2. If Horizon can evidence that the TWA cannot be delivered earlier than Y4 Q4, the IACC would require that more bedspaces to be delivered and that the following alternative proposal is agreed and secured through the Phasing Strategy:

- 2,500 bedspaces delivered by Y4 Q4
- 3,000 bedspaces delivered by Y6 Q3
- 4,000 bedspaces delivered by Y7 Q2

As detailed in the LIR ([REP2-068], the IACC's concern is if the level of absorption of non-home based construction workers in existing accommodation leading up to Y4 Q4. Horizon's TWA proposal is essentially the wrong way around as the 2,500 bedspaces are delivered in the final phase. Delivering 2,500 TWA bedspaces by Y4 Q4 would still result in 900 workers being in existing accommodation but crucially, would allow the IACC more time to deliver the additional units required in the private sector leading up to peak. This would result in less pressure on the housing and tourism markets; it would allow a more gradual build-up of units (and absorption by workers) and would also result in less units being required.

3. Provided that the number of workers in existing accommodation is capped at 3,000 and Horizon agree to deliver more TWA bedspaces earlier (secured through the Phasing Strategy), an additional requirement is not necessary.

FWQ2.10.37: You have suggested the need for targets for the number of Welsh speakers that would be employed both during construction and operation.

1) How would this be secured?

2) Should the target apply to homebased workers?

3) If it is would be secured through a Requirement how would Welsh speaker be defined?

4) What should happen if the target was not met?

Operationally you have suggested a target of 100% Welsh speakers with a minimum requirement of 85%.

1) Is this realistic?

2) Can you provide an example of another business or organisation that is required to achieve a similar proportion of Welsh speaking staff and has it been achieved?

3) What should happen if the target was not met?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>1) All targets for the employment of individuals with Welsh language skills would be managed through the developer's Welsh language skills strategy. A Welsh language skills strategy sits within an organisation's corporate Welsh language policy and provides the mechanism for an employer to:</p> <p>i. Decide the levels of Welsh language competence required in the four aspects of language skills (understanding, speaking, reading and writing) in specific departments, teams and positions to enable the organisation to carry out its functions effectively and efficiently</p>	<p>1) The draft DCO s.106 agreement commits Horizon to establishing a Welsh language policy and implementing it from Commencement until the end of the Operational Period. The policy will include a Welsh language skills competency framework and assessment tool and will reflect the requirements set out in Schedule 1 of the draft DCO s.106 agreement. Horizon does not agree that a separate Welsh language skills strategy is required as the key components of such a strategy are secured in the draft DCO s.106 agreement and will be included in Horizon's Welsh language policy.</p> <p>2) and 4)</p> <p>Horizon does not agree with IACC's view that targets should be set for the percentage of Welsh speakers in the workforce. The Welsh Government has also noted in its response to</p>

and to promote the use of Welsh in the workplace in accordance with its Welsh language policy.

ii. Identify the current language skills of the workforce (language skills audit/ testing during recruitment)

iii. Identifying and closing Welsh language skills gaps by: a) appointing qualified individuals to vacant posts

b) reorganising posts to redeploy qualified individuals to specific teams; and

c) training current employees, enhancing their language skills and competences. (LIR, Chapter 9, paras 6.9.2.4 – 6.9.2.11 REP2-069).

Welsh Language Skills Strategies are a commonly used mechanism for planning the Welsh language skills of a workplace. All targets and aims for the number of individuals with Welsh language skills ranging from level 1 to level 5 would be set/secured in relation to i) above.

Any Welsh language learning requirements are included in an individual's contract of employment. The Welsh language skills of all staff are reviewed as part of Annual Staff Appraisals. The Welsh language skills / capacity of staff would be a permanent item on management team and HR management meetings.

HNP's proposed Welsh language skills competency framework and Welsh language skills assessment tool (WCLMES Measure 8)

Second Written Questions Q2.10.37 (part of its Deadline 5 response) that 'Welsh Government have not requested a target'.

However, the draft DCO s.106 notes that Horizon will identify those job roles which require level 3 or above Welsh Language Skills which will include identified public facing roles, the Community Involvement Officers, and defined internal roles such as members of the café staff and HR team. Horizon will also identify job roles which require Welsh language skills and the skill level or range of levels required using a Welsh language skills competency framework. These proposals are secured in the draft DCO s.106 which notes that Horizon will use the Welsh language skills competency framework and assessment tool until the end of the Operational Period to:

- Enable it to assess the Welsh language skills requirements for job roles when developing construction and operational job profiles at Wylfa Newydd.
- Provide relevant recruitment managers with training to use the Welsh language skills competency framework and assessment tool to determine the language requirements of construction and operational roles.
- Record the level of Welsh language skills required for each post as part of the recruitment process and will include this information within the advertised job profile.

The draft DCO s.106 also notes that Horizon will utilise the emerging Welsh Government Diagnostic Toolkit (being produced by the National Centre for Learning Welsh) and follow the IACC's 5-level workplace Welsh Language Skills framework document (or any successor document). Horizon has also submitted a paper at deadline 5 outlining how its

represents ii) above. The Welsh Language Commissioner is the regulatory body that oversees an organisation's statutory or voluntary implementation of its Welsh Language Policy and Welsh Language Strategy. 'Horizon's relationship with the Welsh Language Commissioner should be formalised on a voluntary basis, as per the best practice arrangements established by other organisations not formally included within the ambit of the Welsh Language Measure 2011'. (LIR, Chapter 9, para 6.9.2.11 REP2-069)

It is the robust application of all 3 steps of a Welsh Language Skills Strategy that would mitigate any failure to recruit adequate numbers of Welsh speakers. (LIR, Chapter 9, paras 6.9.2.8 REP2-069)

2) Targets / aims for specific proportions of staff with Welsh language skills (at levels 1 – 5) would be allocated to specific departments, work teams and positions within the workforce. These targets apply to any holder of a post and therefore apply to homebased and non-homebased workers.

3) Definition of a Welsh speaker

The Isle of Anglesey County Council, Gwynedd Council and Welsh Government are agreed that the definition of a Welsh speaker is an individual with spoken skills in Welsh at Level 3 or higher as defined by the Association of Language Testers in Europe 1 (ALTE) Framework (see below) and 'Canolradd' (Intermediate) level as defined by the National Centre for Learning Welsh. Although

proposed Welsh language skills competency framework could be implemented.

It has been agreed by key interested parties (IACC, Welsh Government and Gwynedd Council) that the framework will be based on the ALTE levels of competence. Horizon Annex 1.3 of Appendix A of IACC's Deadline 4 submission (REP4-034), Appendix 1 of Gwynedd Council's Deadline 4 submission (REP4-032) and paragraph 2.1.3 of the Welsh Government's Deadline 4 Submission (REP4-053) confirm that there is agreement between Welsh Government and themselves that the speaking levels are based on the ALTE Framework, ranging from 0, no skills to 5, fluent.

IACC have requested that all roles at Wylfa Newydd should be designated Level 1 minimum requirement. ALTE Level 1 (equivalent to *Common European Framework of Reference (CEFR)* Level A2) would be equivalent to completing both Mynediad/Entry and the Sylfaen/Foundation Welsh for Adults courses, as noted in the *ALTE framework 2018* (See Figure 1 below) and as recognised by WJEC (See Figure 2 below). Horizon does not consider this to be a reasonable expectation nor is it a practicable approach.

Level 3 individuals may not understand the entire discussion in Welsh (especially if the matters are technical in nature), they are able to understand and contribute to the conversation without changing the language of the discussion from Welsh to English, both in work and community contexts.

(iii) Speaking Levels (based upon ALTE framework and adopted by IACC and Gwynedd Council workplace Welsh Language Skills Strategies)

0 - No skills

1 - Able to conduct a general conversation [greetings, names, saying, place names] 2 - Able to answer simple enquiries involving work

3 - Able to converse with someone else, with some hesitancy, regarding routine work issues

4 - Able to speak the language in the majority of situations using some English words 5 - Fluent – able to conduct a conversation and answer questions, for an extended period of time where necessary

4) An annual review of its Welsh language strategy and annual audit of all staff's Welsh language skills (secured through Welsh language skills being reviewed in annual staff appraisals) would identify whether targets had been met or not and steps to provide additional training, mentoring, changing language level requirements

Figure 1: ALTE framework levels and Welsh for Adults levels

Language	Organisation	Pre-A1	A1 ALTE Breakthrough	A2 ALTE Level 1	B1 ALTE Level 2	B2 ALTE Level 3	C1 ALTE Level 4	C2 ALTE Level 5
Spanish	Instituto Cervantes			DELE A2 • Audit in progress				
Swedish	Stockholm University						TISUS • Re-audit Jan 2021 ALTE	
	Stockholms universitet		National Test in Swedish for immigrants • Audit in progress	National Test in Swedish for immigrants • Audit in progress	National Test in Swedish for immigrants • Audit in progress			
Welsh Cymraeg	WJEC-GBAC		Deddfyddi'n Gymraeg Mynediad • Re-audit Mar 2019 ALTE	Deddfyddi'n Gymraeg Sylfaen • Re-audit Mar 2019 ALTE	Deddfyddi'n Gymraeg Canolradd • Re-audit Mar 2019 ALTE			

(available at: <https://www.alte.org/resources/Documents/2018-05-15%20ALTE%20Framework%20v24.pdf>)

Figure 2. WJEC summary of Welsh for adults, ALTE and CEFR levels

Qualification	Level in the Framework	Framework of Reference (CEFR)
Mynediad / Entry	Mynediad	A1
Sylfaen / Foundation	1	A2
Canolradd / Intermediate	2	B1
Uwch / Advanced	3	B2

(available at: <https://wjec.co.uk/qualifications/welsh-for-adults/>).

The time taken to reach a level of competence equivalent to Level 1 ALTE would depend on a number of factors including the learner's proficiency and model of course delivery. However, evidence suggests that it would be likely to require over 200 hours of guided learning. For example, current Foundation and Mynediad/Entry and Sylfaen/Foundation Welsh for Adults courses typically involve around 120 hours

on recruitment etc. would be implemented to achieve targets in the coming year.

Construction, Operation and Decommissioning Phases

The figure of 85% refers to IACC's position that 85% of the operation workers should be recruited from within the local area (KSA) (LIR Chapter 3, para 1.1.4) (REP2-063).

IACC has indicated its expectation that a target of 100% Welsh level 1 Welsh language skills should be achieved for all construction and operation staff.

LIR Chapter 9 para 6.9.2.4 (REP2-069) states: "IACC believes that this Mitigation would be more effective if it included a statement to the effect that Welsh language skills (of different levels) be required across all grades, including Senior and Middle Management during construction, operation and decommissioning phases. It is recognised best practice that all employees in an organisation gain basic courtesy Level 1 Welsh.2 It would also be a realistic expectation that all Horizon staff follow the National Learn Welsh Centre's 10 hour on-line course Croeso Cymraeg Gwaith."3

LIR Chapter 9 (REP2-069) paras 6.9.12.1 and 6.9.12.2 quote HNP's WCLMES measure 12 commitment to linguistic courtesy for all operational and construction staff:

each of guided learning. Furthermore, a government-funded *Evaluation of the National Welsh for Adults Programme* (NfER, 2003) found that: 'A total of 200 learning hours each is prescribed for the Mynediad and Sylfaen qualifications.' (See <https://www.nfer.ac.uk/publications/WCY01/WCY01.pdf>).

These estimates are reinforced by evidence in relation to learning other languages to Level 1 ALTE (or equivalent). For example, the *Introductory Guide to the Common European Framework of Reference (CEFR) for English Language Teachers* (Cambridge University Press, 2013) estimates that 180-200 hours of guided learning are required to progress to level A2 on the CEFR (See <http://www.englishprofile.org/images/pdf/GuideToCEFR.pdf>), which is equivalent to Level 1 on an ALTE framework.

Based on the above evidence, Horizon does not consider that this is a practicable or reasonable requirement for all workers to reach Level 1 on the ALTE framework. Horizon considers that the existing proposed approach of assessing the requirements of each job role using the Welsh language skills competency framework and assessment, taking into account factors such as level of contact with the public/stakeholders and the Welsh language and bilingual capacity and needs of teams/departments will be a more appropriate model for assessing the requirements of job roles.

This approach will be further supported by mandatory Welsh language awareness training for the workforce, the development of a programme of Welsh language skills training for relevant roles, encouragement to take up Welsh language training opportunities, a Welsh language mentoring scheme

“Horizon will provide language and culture awareness training to all construction and operational staff and require staff to demonstrate linguistic courtesy” HNP WCLMES Measure 12 (Application Reference Number 8:14)

Clarification should be sought to ensure that HNP’s commitment to training and requiring staff to demonstrate linguistic courtesy equates to Level 1 = linguistic courtesy (see IACC language levels defined in 3) above and N Wales Police Welsh language protocols in the references provided below).

Other proportions of Welsh speaking staff (at levels 3, 4 and 5) would be assigned to specific roles / posts within the developer’s workforce structure (e.g. all public facing roles, HR staff, procurement, marketing /publicity, senior and middle management roles). Welsh Government has offered to assist the developer in this task. Appropriate advice could also be sought from the Welsh Language Commissioner.

1) Yes this aim is realistic. In Wales, there is a well-established approach (since 1993) to developing the bilingual capacity of workforces and the bilingual practices of the workplace. The Welsh Language Commissioner would have the best overview of effective practice throughout Wales.

2) In North Wales, the North Wales Police (NWP) is one example and provides a best practice

and use of a Welsh speaker badge scheme. Furthermore, Horizon will monitor the Welsh language skills of the workforce and report on this annually. All of these measures are secured in the draft DCO s.106 agreement.

Horizon also notes that (based on December 2018 data) two-thirds of the Wylfa Newydd site office staff had some Welsh language skills, with over half of the workforce fluent speakers. In addition, over half the Wylfa Newydd technical apprentices were Welsh speakers.

In response to IACC’s comments on the second question (*example of another business or organisation that is required to achieve a similar proportion of Welsh speaking staff*), Horizon is committed to engaging with other organisations such as the National Centre for Learning Welsh, Welsh Language Commissioner and Welsh Government to enable it to draw on good practice in developing its Welsh Language Policy. Horizon is also committed to learning from organisations who have successfully implemented Welsh language policies and skills strategies over several years.

Horizon has engaged with North Wales Police, for example, to this end. However, it is also important to recognise that there are key differences between Horizon and organisations, such as local authorities, local health boards and police authorities, that are subject to legally binding requirements that aim to improve the bilingual services that the public can expect to receive from them. The Welsh Language (Wales) Measure 2011 established a legal framework to impose duties on public organisations to comply with one or more standards of conduct on the Welsh language, which was made an official language of Wales. This means Welsh must be treated no less favourably than English. For example, the [North Wales Police](#)

example of how that can be achieved over a period of time.

NWP's approach in brief:

- 2005 Level 1 Welsh language skills required for all new members of staff; Level 1 achieved through 1 day training for all new staff and self-study materials also provided.
- 2008 Level 2 Welsh Language skills required for all new staff and Level 1 for all existing staff.
- Currently, all new non-Welsh speaking staff are required to gain Level 3 Welsh language skills within 12 months of appointment.

A more detailed account of NWP's development of bilingual skills is provided here:

<https://www.north-wales.police.uk/media/653935/north-wales-police-and-bilingualism-eng.pdf>

The figure below shows how North Wales Police's staff Welsh language profile has changed between 2006 – 2018.

Source: Annual Monitoring Report on the Welsh language 2018 <https://www.north-wales.police.uk/media/655600/annual-monitoring-report-on-the-welsh-language-18-en.pdf>

It is realistic for HNP to adopt NWP's approach and for all construction workers to have level 1 Welsh language skills. A one-day Welsh Language Awareness and basic Welsh language courtesy skills should be delivered as part of staff

[compliance notice](#) issued by the Welsh Language Commissioner under Section 44 of the Welsh Language (Wales) Measure 2011, includes the standards with which it must comply. Horizon is not subject to the same regulatory framework.

Acknowledging these key differences, Horizon can draw valuable lessons from North Wales Police's experience (as summarised in '[North Wales Police and Bilingualism](#)'). For example, the North Wales Police experience demonstrates that its Welsh language policy and processes have evolved and been implemented over a significant period of time, taking into account the views of internal and external stakeholders as well as collaboration with training providers and consultants. This evolution is illustrated by the key milestones which included developing its Welsh Language Scheme (1997-2000), a needs assessment (around 2000), recognising the Welsh language as a vocational skill (2003), developing a bespoke Welsh language skills competency framework and tests (2003-5), introducing a Level 1 Protocol from 2005 and mandating the use of this for all posts from 2009.

It is important to emphasise that North Wales Police's Level 1, 2 and 3 requirements (and associated training packages) are based on bespoke levels that map to the organisation's skills requirements, and that these were developed over a number of years. The draft DCO s.106 agreement secures Horizon's development of a programme of Welsh language training for the Workforce operational staff where this is a relevant requirement within a job-role (as determined by the Welsh language skills competency framework). The draft DCO s.106 agreement also secures Horizon's development of a Welsh language mentoring scheme for learners and a Welsh speaker

	<p>induction. Free ‘Work Welsh’ resources are also available online. Croeso Cymraeg Gwaith/ Welcome Work Welsh is a 10 hour self-study course for absolute beginners and Croeso Nôl is a follow on 10 hour online course. https://learnwelsh.cymru/</p> <p>Over time, IACC expect the developer to be committed to developing the overall language profile of its staff so that by Operation and Decommissioning phases a profile similar to that of NWP is achieved.</p> <p>3. Ongoing monitoring is required to assess whether targets are being met. Should targets not be met, intervention and mitigation would be required to ensure that the target will be met.</p>	<p>badge scheme as well as using reasonable endeavours to ensure that its contractors operate an equivalent scheme.</p>
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FWQ2.10.40: You have raised concerns regarding the robustness of the Welsh Language Impact Assessment (WLIA) – was the scope of the WLIA agreed with you prior to submission?

Interested Party	IP response to FWQ	Horizon Comments
GCC	<p>The scope and content of the WLIA was shared with us through the WLIA Steering Group at several stages prior to submission, but we have always had concerns that it was not robust enough, and members of the steering group attempted several times to influence change and to get the details needed in the final document – especially in respect of the risks of not setting out adequate monitoring procedures– but the full</p>	<p>Gwynedd Council note their concern that the scope and content of the WLIA [APP-432], making specific reference to monitoring procedures. Horizon’s position with regards to monitoring the effects in relation to Welsh language and culture has advanced significantly through statement of common ground discussions with stakeholders including Gwynedd Council. Horizon’s position with regards to monitoring is set out in Schedule 1 of the draft DCO s.106</p>

	<p>changes asked for were never delivered. One of our concerns regarding the Assessment is that it uses an evidence base which has dated quickly, and therefore raises concerns about the ability and willingness of Horizon to react to the unknown, and consider not only the direct impact of the development on the area and communities, but of the cumulative effects. For example, does the effect of workers and dependants on services lessen or worsen if you consider it alongside changes implemented by the LA's to those services?</p>	<p>(draft shared with IACC and Welsh Government on 23.01.19, and submitted to the Examining Authority at Deadline 5). Gwynedd Council note that the WLIA uses an evidence base which has dated quickly. Horizon consider that it is reasonable for the assessment presented in the WLIA [APP-432] which has been submitted as part of the DCO application to be based upon an evidence base at a certain point in time. Monitoring measures as set out in Schedule 1 of the draft DCO s.106 agreement (draft shared with IACC and Welsh Government on 23.01.19) enable the developer to respond to unpredicted effects, which may be due to changes in the baseline, e.g. in relation to services.</p>
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FWQ2.10.40: You have raised concerns regarding the robustness of the Welsh Language Impact Assessment (WLIA) – was the scope of the WLIA agreed with you prior to submission?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The WLIA Scoping Report [APP – 432, Volume A.4] was published in September 2014 for consultation with key stakeholders, which included IACC, Gwynedd Council and WG.</p> <p>The IACC agreed in its response that the methodology used by HNP followed best practice at the time.</p> <p>However IACC has consistently throughout the PAC rounds raised concerns that the application of the methodology for some assessments of impacts – particularly on the population and</p>	<p>It is agreed by Horizon, IACC and Welsh Government that the WLIA [APP-432] methodology is robust and follows best practice. This is illustrated by IACC's position in the SoCG between it and Horizon [REP2-041] which notes: <i>'IACC agrees with the methodology used in the WLIA, except in relation to dependents associated with migrant workers.'</i> [IACC 0076]. This is also agreed with Welsh Government, with the SoCG [REP2-043] noting that 'The WLIA methodology is agreed' [WG15] and 'The WLIA Study Area is agreed' and [WG16]. The scope and methodology for the study has been presented during PACs and has been</p>

community dimensions – have not been sufficiently robust.

In IACC’s view overall there are considerable weakness in the assessment of likely effects, particularly in terms of project wide and inter-project temporal and spatial effects.

As a result, in IACC’s view the likely effects are underplayed and the proposed mitigation and compensation measures deficient.

Further information on the detail is provided below:

Following the Phase 1 Pre-Application Consultation a Preliminary WLIA was prepared and subsequently shared with the WLIA Steering Group in late 2015 and with IACC in January 2016. An interim WLIA was published as part of PAC 2 which, inter alia, produced a descriptive summary of likely effects during construction (Chapter 6), operation (Chapter 7 and decommissioning (Chapter 9).

In its response to PAC2, IACC raised its concern that the WLIA “does not fully consider the likely direct and indirect impact of the project, especially by construction workers and their dependants, on the Welsh language and culture” . There was also concern raised that the analysis presented a “static interpretation of likely impact” and a suggestion made that the assessment should include a series of potential scenarios of possible

discussed regularly during WLIA Steering Group meetings involving all parties.

The IACC has recognised and accepted that the methodology is in accordance with the guidance adopted in IACC’s Supplementary Planning Guidance on the Welsh Language (2007). Paragraphs 4.2.1 and 4.2.2 of Chapter 9 of IACC’s Local Impact Report [REP2-069] note that ‘The methodology used by Horizon for its Welsh Language Impact Assessment of the Wylfa Newydd project is ‘Planning and the Welsh Language - The Way Ahead’ (2005). This is the WLIA methodology used by most assessors in the planning field, including local authorities since 2005.’

IACC has confirmed that their responses to a draft WLIA and WLCMES shared with statutory and key non-statutory stakeholders in September 2017 focussed on the mitigation and enhancement measures rather than the assessment itself. Therefore specific concerns with regards to the scope/applicability of the draft assessment were not raised by them at this stage.

Nonetheless, the issues of application of the methodology raised by IACC reflect the areas within the assessment where there is more uncertainty (e.g. in relation to workers and their dependants). The matter of uncertainty is addressed by the assessment, and by the general approach of considering a worst-case (see Table A-7 of the WLIA). This is consistent with the approach taken in the ES, specifically, the socio-economic assessments presented in APP-088, APP-122, APP-241, APP-268, APP-306 and APP-357. The monitoring measures included within the WLIA are a key part of the response to uncertainty in the assessment and a characteristic of the responsiveness of the WLIA mitigation

	<p>emergence of Welsh speakers over time” [APP – 432, ref. Table A7, page 41].</p> <p>The draft WLIA and WLCMES Strategy was provided to statutory and key non-statutory stakeholders in September 2017. The issues raised in response tended to focus on the mitigation and enhancement measures rather than the Assessment itself.</p> <p>The final WLIA document was submitted as part of the DCO in May 2018.</p>	<p>and enhancement measures secured via the draft DCO s.106 agreement. Therefore Horizon do not agree with IACC that the assessment is a “static interpretation of likely impact”.</p> <p>The assessment of effects for Project-wide effects presented in section B.4 (Q.1) of the WLIA [APP-432] provides an assessment of effects at KSA and sub-area level, town/ward level and within the Wylfa Newydd Development Area level. In addition, an assessment of effects from Associated Developments are presented at a Local Area of Influence level. These are presented in sections C.4, D.4, E.4, F.4 and G.4 of the WLIA [APP-432]. Therefore, the assessment has been presented at various geographical scales and Horizon consider this to present a robust assessment and do not agree with IACC that there are temporal and spatial ‘weaknesses’ to the assessment.</p>
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**FWQ2.11.6: Would an early year’s strategy for highways movements, including any necessary arrangements that may arise if the MOLF or highways works were delayed, be required?
If yes could this be delivered by a suitably worded requirement?**

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The IACC, as Highways Authority, has consistently and repeatedly emphasised the need for an Early Years Strategy (the construction period for the Associated Developments, MOLF, A5025 improvements, Site Campus Phase 1, and Site Mobilisation) which sets out the management and planning of Heavy Goods</p>	<p>This issue was addressed in full in Horizon’s response to FWQ2.116. This response is repeated below for ease of reference.</p> <p>A Hearing Action Point issued by the Examining Authority following the Socio-Economic and traffic and transport Hearing on Tuesday 8th January 2019 was for Horizon to give consideration to the need for an early years transport strategy.</p>

Vehicle (HGV) traffic movements. The Authority has previously raised these concerns in its formal response to the Pre-Application Consultation Stage Three (PAC3) dating back to July 2017, and has continued to form part of the main Traffic and Transport issues raised by the Authority in its Local Impact Report. As recently as Tuesday the 8th January, 2019 the Authority highlighted these concerns in the Issue Specific Hearings, and emphasised the need for an appropriate cap on HGV movements during the Early Years of the project to safeguard the interests and safety of local residents whom currently reside adjacent or near the A5025. The Authority considers that the proposed HGV cap of 2,500 One-Way HGV deliveries a month [5,000 Two-Way a month] and 22 One-Way HGV deliveries an hour [44 Two-Way an hour] submitted by HNP for the Early Years is inappropriate and will generate adverse impacts on the local residents and communities. The Authority would consider a maximum 40% increase in HGV traffic above HGV baseline flows a more appropriate cap prior to opening of Off-Line bypasses.

The IACC has no preference whether this cap is set out in the CoCPs or a requirement provided that in either case it is suitably precise and enforceable in its terms.

Horizon has done so through a separate note submitted at Deadline 5 (12 February 2019).

In summary, Horizon proposes a range of measures in the early years including:

1. Shuttle bus network to transport construction workers to and from the Wylfa Newydd Project.
2. Car sharing for construction workers travelling to and from the Wylfa Newydd Development Area to reduce traffic flows on the A5025.
3. Hourly, daily and monthly caps on the number of construction vehicle movements on the A5025.
4. Restrictions on the hours when construction vehicles can travel to and from the Wylfa Newydd Project on the A5025 to avoid travel during school opening and closing times.
5. Implementation of minor remedial highway workers in Llanfachraeth to help mitigate potential impacts of construction vehicle movements.

If the MOLF were to be delayed then Horizon would continue to deliver material to the Wylfa Newydd DCO Project within the HGV caps specified in the Wylfa Newydd Code of Construction Practice. If the delivery of the MOLF were delayed by many months then Horizon would discuss potential alternative arrangements (e.g. use of Holyhead Port) with the IACC, Welsh Government and others.

Similarly, if the A5025 Offline Highway Improvements were delayed, Horizon would continue to deliver material to the Wylfa Newydd Project within the HGV caps specified in the Wylfa Newydd Code of Construction Practice.

Given the measures already secured, Horizon does not consider there is any need for further requirements to be provided to control and manage traffic movements during the early years of construction.

FWQ2.11.16: The pre-commencement works proposed would be quite wide ranging and would require a significant number of vehicle movements. Would these works need to be managed and if so how should this be secured?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>The IACC considers that, as a minimum, the HGV caps imposed to the delivery of the A5025 offline improvements should apply to all project traffic, including movements related to pre-commencement works. The IACC considers that this should be secured through a requirement.</p> <p>PW[x]</p> <p>(1) Prior to the opening to traffic of all of the A5025 offline improvements, being Works 8, 9, 10 and 11), HGV movements must not exceed [335](2-way) movements per day Monday to Friday and a maximum 100 (2-way) movements between 08:00- 13:00 on Saturday.</p> <p>These figures are based on data provided by HNP within their baseline in which discussions are ongoing over their adequacy.</p>	<p>As noted in Horizon noted in its response to this Question 2.11.16, the pre-commencement works will be subject to the Wylfa Newydd CoCP and relevant sub-CoCP.</p> <p>Therefore, there is no need for a requirement to impose HGV caps, as the pre A5025 Off-Line Highway Improvements HGV caps in the Wylfa Newydd CoCP will apply to these pre-commencement works (although the HGVs associated with these works will be minimal).</p>

FWQ2.11.19: Would the additional buses needed to transport workers from Cae Glas and Kingsland affect the outputs of the Transport Assessment/traffic modelling?

Interested Party	IP response to FWQ	Horizon Comments
Land and Lakes	<p>L&L have fully assessed the transport impacts of the L&L scheme in combination with the DCO proposals and there is no material worsening of effects. The ExA is referred to L&L’s assessment by Curtins at [REP2-248] and most recent explanatory note by Curtins at [REP4-036 Technical Note 01 dated 17 January 2019]. HNP’s response to L&L’s transport case is inaccurate and is based upon an obvious misreading of L&L’s report. Section 1.2.3 of appendix 1-3 to the HNP’s Response to actions set in the ISH on 8 January 2019 [REP4-008] states: ‘Transport analysis provided in the Curtins report at paragraph 1.5.6 states that a total of 21 coaches would be required to move the construction workers each day from the Land and Lakes sites on Holy Island to the WNDA.’ This is not correct. Para 1.56 of appendix 4 to the Land and Lakes Deadline 2 submissions [REP2-249] states: ‘Morning Peak Hour Impacts: The HNP forecast per 1000 workers is for 230 staff to attend each morning shift. If using a 45 seater coach, this equates to 21 coaches per morning shift for a TWA facility comprising 4000 workers.’ ‘Evening Peak Hour Impacts: The HNP forecast per 1000 workers is for 103 staff to attend each night shift.</p>	<p>The response provided by the Land and Lakes concerning the number of coaches required to transport construction workers each day from the proposed sites Cae Glas and Kingsland suggests that the information provided by Curtins has been mis-interpreted by Horizon.</p> <p>On reviewing the additional information provided by Curtins this is correct and this mis-interpretation means that the previous comments provided by Horizon under-estimated the number of buses required to transport construction workers from Cae Glas and Kingsland to the Wylfa Newydd DCO Project by a factor of three. This is because of confusion around the definition of “shifts”.</p> <p>The Wylfa Newydd DCO Project has worked on the principle of a day shift and a night shift during the peak year of construction. The day shift would then have three staggered start times to help spread traffic demand from workers and calculations have been made on this basis.</p> <p>The Curtins report has though used the term “shift” to cover a single start time and then said there are three morning shifts. This means that when the Curtins Traffic and Transport Matters report states at paragraph 1.5.6 “this equates to 21 coaches per morning shift for a TWA facility comprising 4000 workers” this in practice relates to a single start time for the day shift. If all three staggered start times are included then</p>

If using a 45 seater coach, this equates to 10 coaches per night shift for at TWA facility comprising 4000 workers.' Curtins has no reason to doubt the accuracy of the above statements as the calculations are based on information provided by HNP. It is clear from the above HNP has misinterpreted the relevant bullet at paragraph 1.56 of Curtins' report. The reference to 21 coaches is a reference to the number of coaches required for each morning shift, of which there are three. It is therefore wholly incorrect to state that L&L estimated that only 21 coaches would be required for the entire day, this is a simple mistake made by HNP. The following bullet point within the Curtins report (also set out above) sets out the potential movements associated with the night shift. The response from HNP goes on to state in Section 1.2.8 that: 'If a bus or coach carries 45 people then this means that 54 buses would be required to transport all the workers from Holy Island to the WNDA every day at the start of the day shift Mand 54 buses would be needed again at the end of the day shift.' It is not clear what the basis for these numbers is and we are therefore unable to confirm their accuracy. However, in response to the ExA's question, an increase of 33 coaches is not considered to be significant for the reasons already set out in Para 1.5.7 to 1.5.15 of appendix 4 to the Land and Lakes Deadline 2 submissions [REP2-249].

the requirement to transport construction workers from Cae Glas and Kingsland is 63 coaches (21 x 3).

The Land and Lakes response then queries the source of information provided in paragraph 1.2.8 of the Horizon submission. The derivation of these numbers is very straightforward and draws on the information provided by Curtins as follows.

The capacity of 45 people per bus is taken from paragraph 1.5.6 of Traffic and Transport Matters report prepared by Curtins.

The number of workers to be transported for the day shift (2,450) is based on 3,500 workers living at Cae Glas and Kingsland (taken from para 1.5.15 of Traffic and Transport Matters report prepared by Curtins) and 70% of workers working on the day shift ($3,500 \times 0.7 = 2,450$). This number of workers (2,450) is then divided by the capacity of a bus (45) to calculate the number of buses required ($2,450 / 45 = 54$).

These bus movements will use the A5025 to access the WNDA and they are in addition to the traffic movements generated and assessed as part of the Wylfa Newydd DCO Project. As stated in paragraph 1.2.1 of Horizon's submission at Deadline 4: "The Site Campus proposals in Wylfa Newydd DCO Project remove all these trips from the road network helping to reduce the traffic impact of the Wylfa Newydd DCO Project.

Please also refer to Horizon's response to further written question 2.10.11 for additional context.

In summary, the proposal by Land and Lakes has a larger traffic impact on the A5025 than the arrangements proposed for the Wylfa Newydd DCO Project. This is because a large

		number of buses (54) is required to travel to and from the Cae Glas and Kingsland sites each day to transport construction workers to the WNDA whereas in the Wylfa Newydd DCO Project these workers walk to the WNDA from the Temporary Worker Accommodation.
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**FWQ2.13.20: (1) How would the proposed change to working hours affect occupants of the TWA?
(2) What measures are proposed to mitigate the effect on the living conditions of the occupants of the TWA?**

Interested Party	IP response to FWQ	Horizon Comments
Land and Lakes	L&L would note that changes to blasting scheduling may improve vibration conditions at certain times of the day or night but this becomes irrelevant if night shift workers are expected to sleep during blasting works in very close proximity to the Site Campus. This is particularly the case if, as shown on the phasing strategy plan for delivery of the Site Campus, the first phase of TWA is being delivered immediately adjacent to the blasting area, giving night shift workers no alternative accommodation options further from this zone.	This Land and Lakes response is not accurate and is based on incorrect interpretation or lack of knowledge of the Horizon blasting schedule. The scenario outlined in the Land and Lakes response to question 2.13.20 is incorrect. Horizon wish to correct the erroneous response by Land and Lakes and state for clarity and to avoid misapprehension that the current programme scheduling all major blasting activities to be completed at least one month prior to the first occupation of the onsite TWA campus. Horizon therefore considers the issue raised by Land Lakes is not relevant nor should it be considered as a justification for a case in support of an alternative offsite campus promoted by Land and Lakes.

FWQ2.15.1: In relation to the Spent Fuel Storage Facility (Building no 9-201) and the Intermediate Level Waste Storage Facility (Building no 9-202) explain:

- 1) The phasing of construction in relation to the Main Power Station site construction programme and how the development site would be accessed and serviced?**
- 2) The maximum potential length of time these buildings would be required?**
- 3) How, in the event of the two buildings being required beyond the operational and, potentially, decommissioning phases of the project,**
 - a. the size and boundaries of the site they would occupy;**
 - b. how they would be accessed, serviced and provided with car and cycle parking; and c. how they would appear in the landscape from a visual perspective**

– using illustrative plans if possible;
- 4) Is the proposed design of these buildings, which may become ‘stand alone’ buildings in the wider landscape, of a high enough quality in relation to their location close to both the AONB and Cestyll (Grade II) Registered Park and Garden and would the materials used for their construction be sufficiently robust to stand for the period of time required?**
- 5) In the potential circumstances of a requirement for a very long operational life, would a different design approach be required and if so how might it be achieved?**

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>1) ES Chapter D1, para 1.5.3 (APP-120) states that construction of the SFSF and the ILWSF would commence after the Main Construction Phase and would be available for use 10 years into the operational phase.</p> <p>2) ES Chapter D1, para 1.6.235 (APP-120) states that these buildings could be required for 140 years after the end of power generation but could be considerably</p>	<p>The Spent Fuel Storage Facility (SFSF) and Intermediate Level Waste Storage Facility (ILWF) are necessarily large buildings owing to their functional requirements. Their appearance would be subject to the relevant design principles set out in the Design and Access Statement – Volume 2 (REP4-017).</p> <p>The statements made by IACC regarding construction of the SFSF and ILWSF are incorrect. The works would not “continue for the first 10 years”, rather this is approximately when they would commence. The Horizon response to Q2.14.3 at Deadline 5 should be referred to for further</p>

shorter than this as it depends on final disposal in the Government's planned GDF.

3) a) and b) IACC will review and provide a response to HNPs response

c) These two buildings are included in some of the photomontages (e.g. Vp 24 in ES App D10-8, document 6.4.65 (APP-199) but there are no photomontages showing how these buildings would appear once the Power Station buildings have been decommissioned.

4) The locations of these two buildings is in the far south of the Power Station site (see dwg 2 in Volume 2) (REP2-017) and the proposed designs of these buildings, in the form of elevations and roof plans, are shown on dwgs 48 – 51 in Volume 2 (document 2.6.1) (REP2-017). They are very large and tall, but simple rectangular clad buildings with few (if any?) windows. The SFSF has walls which lean outwards and has a curved roof whereas the ILWSF has vertical walls and a shallow double pitched roof. The maximum parameters are provided in Table D1-2. IACC have not been able to locate any information on the materials, colours or profiles of the external finishes.

5) Whether these buildings are required only until the reactors are decommissioned or for a very long operational life, it would be beneficial if the design of the exterior could be sympathetic to this location. The design principles in the DAS would apply.

information including consideration of assessment for these facilities and management of any potential impacts on amenity during their construction.

With regard to the specific reference to the assessment of effects in Chapter D10 (Landscape and Visual), the likely worst-case effects arising from peak construction activities are detailed within that chapter [APP-129]. Construction of these facilities during the operational phase is unlikely to significantly affect any nearby communities, in particular as landscape mitigation will be in place including landscape mounding and up to 10 years planting growth.

	<p>ES Chapter D10, para 10.4.30 confirms that, although the SFSF and ILWSF will be constructed during the first 10 years of the operational phase, the assessment of the construction of these buildings has not been included in the operational phase, but as part of the main construction phase. This means that construction activities in the southern part of the site will, in actuality, continue for the first 10 years of the operational phase but this has not been taken into account in the assessment of the operational phase. The IACC considers that this is an example of a failure to assess the “worst-case scenario” of impacts, particularly in relation to amenity impacts on nearby communities who, not unreasonably, are unlikely to expect construction works to continue for this period post construction of the power station.</p>	
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FWQ2.18.2: Has the Applicant’s explanation of waste matters, provided in section 11 of REP3-004, addressed your concerns as set out in the Local Impact Report on Waste Management [REP2-071]? If not, which of your concerns regarding waste management remain unresolved?

Interested Party	IP response to FWQ	Horizon Comments
IACC	<p>Section 11 of HNPs response to IACC LIR [REP3-004] does not address the IACC’s concerns as set out in Chapter 11 Waste Management of IACCs LIR [REP2-071]. Specifically, the following concerns remain outstanding:</p>	<p>1. Assessment of decommissioning:</p> <p>As stated in Chapter B1 of the Environmental Statement - Introduction to the environmental assessments [APP-066], decommissioning of the Wylfa Newydd Power Station and Off-</p>

Assessment of the Decommission of the Main Power Station Site

In Section 11.1.4 of REP3-004, HNP notes that conventional waste at the decommissioning stage is addressed in Chapter C6 – Waste and Materials Management of the Environmental Statement [APP-093]. However, as noted in paragraph 16.1.5 of document B16 – Waste and Materials Management of the Environmental Statement [APP-081] ‘An assessment on the capacities of the receiving waste management facilities to receive waste materials during decommissioning have not been included in the assessment presented in Chapter C6 and would be made at the appropriate time’. This is echoed in paragraph 6.4.27 of chapter C6 - Waste and materials management of the Environmental Statement [APP- 093]. In this context, we remain of the view that the EIA fails to adequately assess the full effects of decommissioning.

Anticipated Waste Arisings

In Section 11.2.3 of REP3-004, HNP indicated how the types and volumes of waste would be managed in accordance with the Horizon Waste Hierarchy and taking account of the availability and capacity of local and regional waste management capacity. They go on to state that this includes reference to silts captured during construction. This remains unclear however, as paragraph 6.5.22 of document C6 – Waste and Materials Management of the Environmental

Site Power Station Facilities has been assessed at a qualitative level only as decommissioning activities are not anticipated to commence for another 60 years or more and would require a further EIA under the Nuclear Reactors (Environmental Impact Assessment for decommissioning) Regulations 1999 (as amended). Baseline conditions and the technologies of that time would be used to assess the decommissioning process, including in respect of an assessment relating to waste.

2. Volume of silt to be generated at construction stage:

Horizon addresses this point at 11.2.3 of its response to IACC's LIR [REP3-004], which may have been overlooked. Horizon believes that not all silts captured during the construction stage would be waste, in fact most of the silts would be captured via silt fencing and drainage design and reinstated into the landform design. Whilst Horizon agrees with IACC that the volume of silt that is likely to be waste is as yet unknown, it should have no bearing on the outcome of the assessment which has taken a worst case position. This is a matter anticipated by the waste and materials management strategy, the project wide site waste management plan and the contractor's site specific SWMP that will provide an actual forecast of waste based on the detailed design and their planned works.

3. Spatial scope of the assessment methodology:

Statement [APP-093] states that whilst silt will be generated by the development of the drainage system, the volume of silt to be generated is not known.

Baseline Capacity Data

Paragraphs 11.2.5 and 11.3.4 to 11.3.5 of REP3-004 provide useful explanation around the rationale and assumptions used in the gathering of baseline waste management capacity data. Whilst it is re-assuring to read that 'worst case' assumptions have been applied when determining whether potential capacity is available, the approach to using environmental permitting data only to establish existing capacities remains flawed and potentially over-representative of the actual capacity available to the development given that permits, unlike planning consents, are issued using a wide banding system rather than specific waste quantities.

Assessment Methodology

The Applicant's approach to assessing the effect that the proposed development will have on the off-site disposal of hazardous and non-hazardous waste, remains the key outstanding point of concern.

As reflected in paragraph 1.6.4 and 1.6.5 of IACC's LIR Chapter 11: Waste [REP2- 071], IACC believes that the assessment is fundamentally flawed in respect of the off- site disposal of hazardous and non-hazardous waste – resulting in potentially negative effects possibly being under

The methodology and assumptions are clearly set out in the environmental statement (namely in Chapters B1 - Introduction to the environmental assessments [APP-066], B16 – Waste and materials management [APP-081]). Stakeholders (including IACC) were presented the methodology at a WaMOG meeting with no concerns about the method were raised, other than a suggestion to utilise data and reports provided by NRW. The local capacity is currently not available to service the Wylfa Newydd DCO Project, hence Horizon needing to include capacity at a regional level and outside of north Wales.

4. Baseline capacity data:

This is addressed in Horizon's response to IACC's LIR at 11.2.4 and 11.2.5 [REP3-004]. As Horizon states, advice was sought from WaMOG on the methodology and data sources used, and the assessment was updated using the additional data received from NRW. Horizon will review the waste management capacity and spatial scope when the project wide SWMP is prepared - as committed to in the CoCP. This will be complemented by contractors' site specific SWMPs and forecasts of waste based on detailed designs that would provide a more realistic appreciation of what and where conventional waste arisings will be managed.

5. Assessment methodology (relating to interpretation of 'nearest appropriate installation' under TAN21).

reported. This is because all other parts of the assessment i.e. that relating to on-site use of waste and materials; off-site composting of waste; off-site anaerobic digestion and in-vessel composting of waste; and off-site reuse and recycling of waste, are all carried out in the context of the capacity within North Wales to accommodate any waste arisings. However, the assessments which relate to the off-site disposal of hazardous and non-hazardous waste have been carried out in the context of North-west England's ability to absorb waste arisings. This approach is contrary to Welsh planning policy (and the proximity principle, which requires waste to be managed as close as possible to its source of generation); and results in an inconsistent overall waste and materials management assessment, which evaluates one part of the waste stream against local / regional waste management infrastructure and other parts, against a much larger waste infrastructure catchment area (which given its size and inevitable large permitted capacities, will always result in 'not significant' effects being reported). Section 11.3.2 to 11.3.3 of REP3-004, explains that there is a lack of both hazardous and non-hazardous waste disposal facilities within the North Wales region. Therefore, it is argued that the widening of the spatial scope of the assessment to include the North-West England is entirely appropriate given the policy criteria set out

Horizon addressed this at 11.3.2 of the response to IACC's LIR [REP3-004]. Horizon does not agree with IACC on its interpretation of TAN21 as it relates to 'nearest appropriate installation'.

in Welsh Government Technical Advice Note 21: Waste (TAN 21) for waste to be disposed of at the 'nearest appropriate installation'.

Specifically, paragraph 2.9 of TAN21 states:

'The nearest appropriate installation principle states that waste falling with Article 16, should be disposed of or recovered in one of the nearest appropriate installations whilst ensuring a high level of protection for the environment and human health. This means taking into account environmental, economic and social factors, to ensure the right waste management facilities are located in the right place and at the right time. There are several reasons why it is important to manage such waste close to where it arises. This includes reducing the detrimental environmental impacts associated with the transportation of waste and retaining the intrinsic value of waste as a resource in line with the need to secure greater resource efficiency'.

The latter point of this guidance is important – namely that for this principle of nearest appropriate installation to be successfully delivered there needs to be a network of waste management facilities available. This isn't the case in the North Wales region in respect of hazardous and non-hazardous waste disposal, which is why the Applicant must look further afield to dispose of these types of waste arising from the project.

However, in the context of the EIA, what's challenged is that the lack of infrastructure in the North Wales region to dispose hazardous and non-hazardous waste, does not make the effect of needing to transport waste much farther afield to North West England an acceptable one.

In summary therefore, in respect of the assessment of conventional waste and, the effect that the proposed development will have on the off-site disposal of hazardous and non-hazardous waste, it is considered that agreement with Horizon cannot be reached. This is because IACC is unable to agree (1) the spatial scope of the assessment methodology; and (b) the robustness of the baseline waste arisings and capacity data used in the assessment. As a consequence of this, IACC consider the development's impact on the region's hazardous and non-hazardous waste disposal infrastructure has potentially been under-reported.