

**From:** [PMO](#)  
**To:** [Wylfa Newydd](#)  
**Cc:** [Dylan Williams](#); [Liz A. Davies](#); [PMO](#)  
**Subject:** IACC Deadline 2 Submission : Request for Non-Material Change no.1- Blasting Strategy.: Official  
**Date:** 03 December 2018 09:59:29  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[Blasting representations -3.12.18.pdf](#)

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Bore da / *Good morning,*

Gweler ynghlwm cynrychiolaeth CSYM mewn perthynas â'r uchod / *Please see IACC's representation in respect of the above.*

Bydd fersiwn Gymraeg yn cael ei ddarparu cyn gynted a phosib / *A Welsh version of the submission will be provided in due course.*

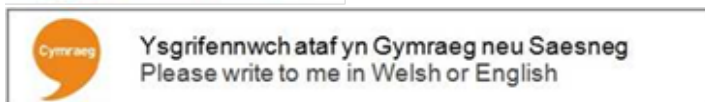
Er gwybodaeth / ni fydd IACC yn cyflwyno sylwadau mewn perthynas â'r newid annatod sy'n ymwneud â symudiadau llongau. / *For your information, IACC will not be making representations in respect of the non-material change relating to vessel movements.*

Cofion / *Regards,*

Swyddfa Rhaglen Ynys Ynni /  
Energy Island Programme Office  
01248 752435 / 2431  
[PMO@ynymon.gov.uk](mailto:PMO@ynymon.gov.uk)



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Mae'r neges e-bost hon a'r ffeiliau a drosglwyddyd ynghlwm gyda hi yn gyfrinachol ac efallai bod breintiau cyfreithiol ynghlwm wrthynt. Yr unig berson sydd i'r hawl i'w darllen, eu copio a'u defnyddio yw'r person y bwriadwyd eu gyrru nhw ato. Petaech wedi derbyn y neges e-bost hon mewn camgymeriad yna, os gwelwch yn dda, rhowch wybod i'r Rheolwr Systemau yn syth gan ddefnyddio'r manylion isod, a pheidiwch datgelu na chopio'r cynnwys i neb arall.

Mae cynnwys y neges e-bost hon yn cynrychioli sylwadau'r gyrrwr yn unig ac nid o angenrheidrwydd yn cynrychioli sylwadau Cyngor Sir Ynys Môn. Mae Cyngor Sir Ynys Môn yn cadw a diogelu ei hawliau i fonitro yr holl negeseuon e-bost trwy ei

rwydweithiau mewnol ac allanol.

Croeso i chi ddelio gyda'r Cyngor yn Gymraeg neu'n Saesneg. Cewch yr un safon o wasanaeth yn y ddwy iaith.

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**DYLAN J. WILLIAMS** BA (Hons), MSc, MA, M.R.T.P.I  
Pennaeth Rheoleiddio a Datblygu Economaidd  
Head of Service Regulation and Economic Development

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Ein Cyf / Our Ref: YM / EN010007  
Eich Cyf / Your Ref: EN010007

Dyddiad / Date: 3.12..2018

Annwyl Kay,

**Archwiliad GCD Wylfa Newydd EN010007.**

**Cais rhif 1. am Newidiadau Di-Faterol -  
Strategaeth Blastio**

**Cyflwyniad Terfyn Amser 2.**

Gweler drosodd, os gwelwch yn dda, sylwadau'r  
Cyngor mewn perthynas â'r uchod

Yn gywir,

Dear Kay,

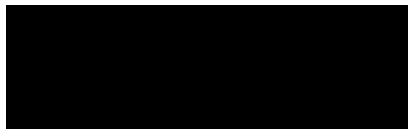
**Wylfa Newydd DCO Examination EN010007.**

**Request for Non-Material Change no.1-  
Blasting Strategy**

**Deadline 2 Submission.**

Please see overleaf the Council's representation  
in respect of the above

Yours sincerely,



**Dylan J. Williams**

**Pennaeth Gwasanaeth  
Rheoleiddio a Datblygu Economaidd**

**Head of Service  
Regulation and Economic Development**

**Regulation & Economic Development**

**Wylfa Newydd DCO Examination EN010007**

**Request for Non-Material Change no.1  
Blasting Strategy**

**Deadline 2 Submission**

**Prepared by: Energy Island Programme Management Office  
3<sup>rd</sup> December, 2018**

## **Request for Non-Material Change no.1**

### **Blasting Strategy**

This correspondence forms the response of the IACC to the Change Request 1. Blasting Strategy which forms part of Examination Library Reference AS-020 which has been accepted at the discretion of the Examining Authority.

The IACC responded to HNP's public consultation which took place between Tuesday 14<sup>th</sup> August and Friday 28<sup>th</sup> September 2018. (See copy of response dated 28<sup>th</sup> September 2018 attached).

While the IACC is satisfied that the proposed change is non-material in context, the Council objects to the proposal regarding the changes requested to the Blasting Strategy with regards to the additional hours of blasting requested between 1800 and 1900 hours. That change is considered to have the potential to impact adversely on the nearby communities.

### **Consistency with British Standard**

HNP confirms that the changes are required following ongoing contractor engagement, additional information regarding construction blasting requirements and to minimize project risk. The non-material change proposes to extend the weekday hours for blasting from between 10:00 and 16:00 (6 hours), to between 09:00 and 19:00 (10 hours), and Saturday blasting from between 10:00 and 13:00 (3 hours), to between 09:00 and 13:00 (4 hours). It is confirmed that there will be no blasting on Sundays or Bank Holidays. The confirmation that there will only be three occurrences of vibrations per day is noted.

HNP confirms that no new or different likely significant environmental effects are predicted in relation to the proposed change.

The proposed changes are confirmed by HNP to be based on guidance included in BS6472-2:2008 *'Guide to evaluation of human exposure to vibration in buildings.'*

The IACC accepts the use of BS6472-2:2008 *'Guide to evaluation of human exposure to vibration in buildings'* subject to adequate provision being included in the Wylfa Newydd Code of Construction Practice (CoCPs) and sub CoCPs to secure the use of best practice measures to control the effects of blasting.

Horizon submits that the proposed change will ensure that blasting timings are more closely aligned with the relevant British Standard BS 6472-2 on human exposure to vibration.

The British Standard provides specific guidance upon the recommended times within which blasting should occur and confirms satisfactory vibration magnitudes (peak particle velocity), defining blasting during the day, night and other times. The standard defines Daytime for the purposes of blasting as 0800 – 1800 hrs Monday – Friday and 0800 – 1300 hrs on Saturday. Night time is defined as 2300 - 0700 hours and 'other times' cover the period outside the normal working day but exclude the night-time period. Separate *"maximum satisfactory magnitudes of vibration with respect to human response for up to three blast vibration events per day"* (in terms of peak particle velocity PPV) are also given

in Table 1. These magnitudes vary between 6.0-10.0 mms<sup>-1</sup> for daytime, 2.0 mms<sup>-1</sup> for night-time and 4.5 mms<sup>-1</sup> at “other times”;

The IACC submits that Horizon’s proposed blasting timings are non-compliant with the Standard as blasting between the hours of 18:00 and 19:00 hours Monday to Friday falls into the ‘other times’ of blasting as defined by the standard.

Horizon notes that the timings have been amended to align the blasting times with shift changes to enable sufficiently trained personnel to be available on site to undertake blasting activities. However as confirmed in paragraph 2.7.18 of the technical document that forms part of the consultation, the hours of 18:00 and 19:00 hours are the hours when people arrive home from work and expect to be able to relax, and will therefore be more sensitive to disturbance. The high sensitivity increases the magnitude of effects and should therefore be mitigated for by confining such events to recommended hours and standard practices.

The statement in paragraph 2.4.1 that *“Due to the complexity of the operation, it is likely that each blast will be of a bespoke design and dependant on the amount of material required to be removed or the final profile needed”* should be true for every blast design made whether it is on a quarry, opencast coal site, construction or demolition site. There should never be a “one size fits all” approach to blast design.

Paragraph 2.4.3 alludes to the complexity of the blasting operations, including *“some pre-split blasting involving smaller satisfactory magnitude blasts”* – it should be noted that, despite this statement, pre-split blasting may have the potential to create higher levels of vibration and air overpressure due to the nature of the blast design. Careful design of this type of blasting would need to be undertaken to minimise the environmental effects;

The IACC objects to the blasting strategy as currently presented and requests that the strategy is amended to be in compliance with BS6472-2:2008 and for shots fired between the hours of 18:00 and 19:00, to fall into ‘other times’ and to be subject to the lower ppv limit of 4.5mm<sup>-1</sup> in order to mitigate impacts, including mitigating for potential disturbance effects and distress to residents. This should be confirmed in the noise and vibration management strategy included in the Main Power Station Site sub CoCP.

The original blasting criteria included in the Main Power Station Site sub CoCP paragraph 8.2.2 will still apply to any amendment<sup>1</sup>. The IACC considers that this blasting vibration criteria to be suitable for up to 3 blasting events per day from the hours between 0900 and 1800 and that the lower criterion of 4.5 mms<sup>-1</sup> from Table 1 of BS6472-2 is used for all blasting events undertaken after 18:00 hrs to *prevent* “undue disturbance at residential dwellings, education, facilities, bat roosts and barn owl roosts”.

In terms of best practice measures, the IACC considers that BS5228 ‘Construction Noise and Vibration’ is more specific for construction and open sites, and therefore considered more relevant for the Wylfa Newydd Project (although it is noted that the standard is primarily concerned with vibration caused by machinery and piling). The IACC therefore recommends that the Wylfa Newydd CoCP and relevant sub CoCPs confirms that the project will implement and adhere to the good practice advice contained in BS5228 so far as it is relevant to the project. This will ensure in practice that the working methods are employing a reasonable equivalent of best practice across types of noises and vibration management, particularly from the surface mineral extraction by blasting sections. Of

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<sup>1</sup> Examination Library Reference APP-415

particular relevance is section 8.6.9 of BS5228 *Practical measures to reduce vibration and air overpressure from blasting* and Section 9.1 which refers to *Monitoring*.

Also considered of relevance are the following sections of BS5228:- 8.6.3 location of site elements, 8.6.4 working methods, 8.6.5 *selection of plants*, 8.6.6 deployment of plant and 8.6.8 site management.

### **Blasting Time Slots**

*“The Environmental Effects of Production Blasting from Surface Mineral Workings”*, a DETR report from April 1998 based on work undertaken by Vibrock Limited, states that in general blasting times are normally based on either:

- A time slot between a fixed start and finish time (as proposed by Horizon); or
- More commonly as a 5 – 10 minute slot either side of, for example, the top of the hour between a set start and finish time.

The IACC requests that Horizon adopts the latter for blasting on the WNDA project. This is based on evidence from the DETR report which included a public perception survey as part of the research undertaken. This survey indicated that virtually all replies to the questionnaire stated a preference for fixed and regular blasting times which should be notified to all interested parties. Notification could be by site notices, via the Community Liaison Group, via a live website/social media or through an ‘interested parties’ email database. Restricting blasting to a 10 – 20 minute window at the top of the hour between 09:00 – 19:00hrs this is likely to be viewed positively by site neighbours and reduce disturbance by increasing predictability of blasts.

Obviously, there would need to be inclusion of a clause to the effect that this would occur at all times, except in the case of emergencies where safety is at risk (for example, in the case of potential mis-fires). Such incidents should also be immediately notified of their occurrence to the IACC by an agreed reporting means.

Other means of warning of blasting operations are also available such as red flags flying on sensitive boundaries and warning sirens/hooters before and after (to sound the all clear) the blast. Many of these are a pre-requisite to safe blasting practices and would form part of the blasting protocols for the site.

### **Assessment of vibration effects on historic assets**

The IACC has confirmed in its LIR that further assessment is required in the DCO application to the potential effect of vibration on historic assets.

### **Consents under Section 61 of the Control of Pollution Act 1974**

One direct method of controlling noise and vibration will be the need for Horizon to submit an application to the IACC for Prior Consents under Section 61 of the Control of Pollution Act 1974 for all construction work. Each application will need to contain particulars of the works to be undertaken, the working methods and the details of the plant to be used to undertake the work. Details will also need to be submitted of the proposed noise and vibration control measures. Such applications will also need to be supported by vibration risk assessments which would confirm that safe working distances, or alternatives compaction techniques, can be deployed. It is noted that the addition of this mitigation has had the effect of reducing the significance of vibration effects to moderate adverse at the WNDA.



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Williams

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Ein Cyf / Our Ref:

Eich Cyf / Your Ref:

Dyddiad / Date: 28 September 2018

Horizon Nuclear Power,  
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Gloucester  
GL3 4AE.

**Sent by email**

Dear Sir/Madam,

### **Wylfa Newydd – Proposed changes to timings for blasting on site**

With reference to Horizon Nuclear Power's (Horizon) consultation regarding the proposed changes to timings for blasting on site, the Isle of Anglesey County Council (IACC) has now had the opportunity to review the consultation documentation, which includes a technical document (*Request for Non-Material change no.1 – Blasting Strategy. Revision 1.0 August 2018*).

In summary, the IACC accepts the use of BS6472-2:2008 '*Guide to evaluation of human exposure to vibration in buildings*' subject to adequate provision being included in the Wylfa Newydd Code of Construction Practice (CoCPs) and sub CoCPs to secure the use of best practice measures to control the effects of blasting. The IACC however objects to the proposal for blasting between 1800 and 1900 hours, and for blasting within this period not to be treated as "other times" within the meaning of BS6472-2.

Please note that our comments are without prejudice to any comments we may wish to make at a later date. At that time there may be new or additional information available which we will need to take into account in making a formal response to any Town and Country Planning Application (TCPA) or Development Consent Order (DCO) application.

It is noted that Horizon proposes changes to the timing blasting to that detailed as part of the Development Consent Order (DCO) application which includes changing the timing as follows;



Proposed DCO Blasting Timing	Proposed Change
Monday to Friday between 10:00 and 16:00	Monday to Friday between 09:00 and 19:00
Saturday between 10:00 and 13:00	Saturday between 08:00 and 13:00 (with no blasting after dusk between March and September)
No blasting on Sundays and Bank Holidays.	No blasting on Sundays and Bank Holidays.

The confirmation that there will only be three occurrences of vibrations per day is noted.

Horizon confirms that the changes to the timing schedule as outlined in the DCO application will align blasting times more closely to those stipulated in BS6472-2 but with start and end times amended to accommodate worker shift patterns, which are designed to minimise traffic congestion.

It is noted that Horizon predicts that there will be no new environmental effects from this proposed change.

While the IACC is satisfied that the proposed change is non-material in context, we do have some comments in terms of changes to impacts.

1. While BS6472-2 includes advice for blasting in civil engineering works, the Council considers that BS5228 '*Construction Noise and Vibration*' is more specific for construction and open sites, and therefore considered more relevant for the Wylfa Newydd Project (although it is noted that the standard is primarily concerned with vibration caused by machinery and piling). The IACC therefore recommends that the Wylfa Newydd CoCP and relevant sub CoCPs confirm that the project will implement and adhere to the good practice advice contained in BS5228 so far as it is relevant to the project. This will ensure in practice that the working methods are employing a reasonable equivalent of best practice across types of noises and vibration management, particularly from the surface mineral extraction by blasting sections. Of particular relevance is section 8.6.9 of BS5228 *Practical measures to reduce vibration and air overpressure from blasting* and Section 9.1 which refers to *Monitoring*.

Also considered of relevance are the following sections of BS5228;

- 8.6.3 location of site elements
- 8.6.4 working methods
- 8.6.5 selection of plants
- 8.6.6 deployment of plant
- 8.6.8 site management

The IACC requests that the DCO includes provisions to allow the final versions of the Wylfa Newydd CoCP and sub CoCPs to be approved by the LPA, in consultation with NRW.

2. Horizon confirms that the proposed change will ensure that blasting timings are more closely aligned with the relevant British Standard BS 6472-2 on human exposure to vibration.

The British Standard provides specific guidance upon the recommended times within which blasting should occur and confirms satisfactory vibration magnitudes (peak particle velocity), defining blasting during the day, night and other times. The standard confirms that normal 'daytime' hours for blasting for surface mineral extraction purposes is 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on a Saturday, with no blasting on Sundays or Bank Holidays.

Horizon's proposed blasting timings are non-compliant with the Standard as blasting between the hours of 18:00 and 19:00 hours Monday to Friday falls into the 'other times' of blasting as defined by the standard. The standard confirms that 'other times' extends to the hours outside of the working day but exclude night time which is defined as 23:00 to 07:00.

Horizon notes that the timings have been amended to accommodate shift worker patterns. However as confirmed in paragraph 2.7.18 of the technical document that forms part of the consultation, the hours of 18:00 and 19:00 hours are the hours when people arrive home from work and expect to be able to relax, and will therefore be more sensitive to disturbance. The high sensitivity increases the magnitude of effects and should therefore be mitigated for by confining such events to recommended hours and standard practices.

The British Standard also confirms that blasting outside the recommended hours should only be in exceptional circumstances. Horizon are requesting blasting outside the recommended hours as part of its routine blasting timing schedule.

The IACC therefore, for these reasons, objects to the proposed change to the blasting timings.

The consultation document does not confirm any satisfactory vibration magnitude.

The IACC requests that should Horizon confirm that exceptional blasting is required between the hours of 18:00 and 19:00, this should fall into the 'other times' of blasting as defined in BS 6472-2 in order to acknowledge that people would be more sensitive to blasting during these hours. To comply with BS 6472-2, the vibration levels during the 'other times' should therefore be held at the lower level of satisfactory magnitude ( $4.5 \text{ ppv mms}^{-2}$ ) in order to mitigate impacts, including mitigating for potential disturbance effects and distress to residents. This should be confirmed in the noise and vibration management strategy included in the Main Power Station Site sub CoCP.

3. The IACC is unclear as to the rationale for confirming that blasting will not take place after dusk between the months of March and September, as dusk falls later through the summer months. Clarification is required as to whether restricting blasting after dusk is required for the winter months and not the summer months.

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<sup>2</sup> Review of Horizon's DCO submission (Wylfa Newydd Development Area

4. The IACC has confirmed in our response to Horizon dated 27<sup>th</sup> September 2018<sup>1</sup> that further assessment is required in the DCO application to the potential effect of vibration on historic assets which includes the following;
- During construction, the DCO submission identifies the potential for vibration to cause structural damage to the Corn Mill, but notes that safe working practices would be implemented to avoid any lasting damage.
  - Although mitigation against physical damage arising from vibration is presented in principle, further detail of this mitigation proposal is required before it can be considered robustly by the IACC (including detail of how the mitigation is to be secured). It is noted that safe working practices would be identified to avoid any lasting damage but no detail is provided to allow an assessment of the likely effectiveness of any mitigation proposals and for the degree of damage to this heritage asset, which is of ‘the highest significance’ in NPS terms, to be ascertained
  - The DCO submission does not offer a statement as to whether these effects would constitute harm in policy terms, and no judgement is offered as to whether harm would be of substantial magnitude. The magnitude of change to setting during construction through visible and audible change to setting combined with light pollution and change to air quality could also approach or even amount to substantial harm, even where material damage through vibration could be avoided.
  - The IACC has also identified in the same response (dated 27<sup>th</sup> September 2018) that further assessment is required of the combined effects (noise, dust, vibration, lighting, visual impact) on the historic environment, including potential impacts on Cestyll Garden and its associated Grade II\* Building (Corn Mill).
  - Measures to safeguard (from physical damage and the effects of dust, vibration, changes to water quality, light pollution, etc.) and to enhance the essential elements of the Dame Sylvia Crowe Landscape during the construction phase, to be incorporated into, for example, the CEMP and any construction phase landscape schemes.
5. The IACC has also advised in our letter dated 19<sup>th</sup> September 2018<sup>3</sup> of the reputational risk if the impacts of construction lead to a negative perception which will adversely affect Anglesey’s reputation as a leading nature-based tourism destination. This includes impacts on the AONB, Coastal path and Public Rights of Way. Mitigation is required in the form of capital fund to improve existing provision and to support marketing and promotion of the visitor experience, AONB and Coastal Path to address negative impacts on the tourism sector.

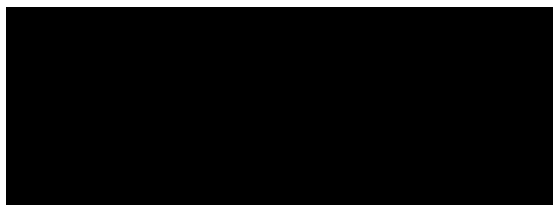
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<sup>3</sup> Review of Horizon’s DCO Application (Tourism)

6. One direct method of controlling noise and vibration will be the need for Horizon to submit an application to the IACC for Prior Consents under Section 61 of the Control of Pollution Act 1974 for all construction work. Each application will need to contain particulars of the works to be undertaken, the working methods and the details of the plant to be used to undertake the work. Details will also need to be submitted of the proposed noise and vibration control measures. Such applications will also need to be supported by vibration risk assessments which would confirm that safe working distances, or alternatives compaction techniques, can be deployed. It is noted that the addition of this mitigation has had the effect of reducing the significance of vibration effects to moderate adverse at the WNDA.

We trust that these comments will be of assistance to you and will be taken into consideration in refining your proposals in order to ensure that they cause minimal disturbance and distress to nearby residents. If you have any queries please do not hesitate to contact us.

**Yours Sincerely**



**DYLAN J. WILLIAMS**

Pennaeth Gwasanaeth – Rheoleiddio a Datblygu Economaidd  
Head of Service - Regulation and Economic Development