

**HORIZON**

NUCLEAR POWER



# Wylfa Newydd Project

## Horizon's Response to Bob Wright on behalf of Residents of Llanfachraeth

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# 1 Horizon's response to Bob Wright on behalf of residence of Llanfachraeth

## 1.1 Introduction

1.1.1 Horizon Nuclear Power Wylfa Limited (“Horizon”) has reviewed the Objection Letter submitted by Mr Bob Wright, Llanfachraeth.

1.1.2 The topics addressed in this response are as follows:

- Highway regulations relating to the A5025;
- Traffic capacity;
- Emergency Services;
- Severance;
- Existing conditions of the A5025;
- Accidents;
- Proposed HGV figures; and
- Local Noise Mitigation Strategy and effects of vibration.

## 1.2 Highway Regulations relating to the A5025

1.2.1 Mr Wright has raised concerns regarding the weight of Heavy Goods Vehicles (HGVs) using the A5025. HGVs for use on UK roads are limited to a maximum weight limit of 44 tonnes gross weight, which is as set out in the Road Vehicles (construction and use) Regulations 1986. HGVs up to this weight limit are currently using the A5025.

1.2.2 It should also be noted that the A5025 through Llanfachraeth is currently identified by Highways England as a dedicated Abnormal Indivisible Load (AIL) Route HR35. HR35 is categorised as Class D for heavy loads and has a height limit of class H, with Class D classification allowing for a gross trailer weight of 264.16 tonnes.

1.2.3 Horizon proposes to use HGVs which comply with current UK Road Vehicle Regulations and AILs which comply with Class D classification as set out above.

## 1.3 Capacity of A5025

1.3.1 The A5025 has a current design capacity of 19,768 vehicles per day (Annual Average Daily Traffic (AADT) two-way). This has been calculated using the Congestion Reference Flow method described in Annex D of DMRB TA46/97.

1.3.2 The baseline 2016 traffic flow on the A5025 is 5,371 vehicles per day (AADT) two-way, and the total maximum predicted flows including Wylfa Newydd DCO Project traffic will be 6,741 vehicles per day (AADT) two-way which is estimated to occur in 2020, pre-completion of the A5025 Off-line Highway Improvements.

- 1.3.3 After the A5025 Off-line Highway Improvements have been opened, traffic through Llanfachraeth is estimated to fall to just 1,436 vehicles per day (AADT) two-way, which is significantly lower than the 2016 baseline and will remain lower for many years to come owing to the diversion of through traffic along the A5025 Off-line Highway Improvements around Llanfachraeth. This offers a significant benefit in perpetuity to the residents of Llanfachraeth compared to the existing situation.
- 1.3.4 Traffic flows quoted above are contained in the ES Volume C-road traffic-related effects (project – wide) App C2-3-Traffic Flows document [APP-100].

## **1.4 Emergency Services**

- 1.4.1 With regard to the ability for the Emergency Services to respond to incidents along the A5025, the A5025 is not substantially impacted by Wylfa Newydd DCO Project and will continue to operate well within its design capacity. Therefore, blue light response times should not be adversely affected along the A5025, except for when roadworks are in place to construct the A5025 On and Off-line Highway Improvements where typical arrangements will be in place to manage traffic, including:
- Highway working areas will be managed with temporary traffic management to limit potential impacts on blue light services.
  - Traffic will be managed using a combination of temporary traffic signals or “stop / go “boards.
  - Highway working areas will be a maximum of 300 metres in length. Two of the four highway working areas required for the On-Line Highway Improvement Works would have the flexibility to expand to 600 metres (to allow for fewer joints in laying the surface course).
  - A minimum separation distance of 0.5km between working areas will be maintained.

## **1.5 Severance**

- 1.5.1 The increase in traffic through Llanfachraeth owing to the Wylfa Newydd DCO Project prior to the Off-Line Highway Improvements opening does not cause a severance issue in Llanfachraeth as the flows are significantly lower than 8,000 vehicles per day (AADT) threshold set out in the Design Manual for Roads and Bridges (DMRB) for severance.

## **1.6 Existing Conditions of the A5025**

- 1.6.1 Mr Wright's complaints regarding existing issues on the A5025 through Llanfachraeth, including widths of highway and footway, crossing facilities, should be directed to IACC as the local highways authority. It is IACCs responsibility to maintain the existing highway, and to ensure the safety of non-motorised users. Mr Wright's complaints regarding existing issues with speeding vehicles should be directed to IACC and the North Wales Police who are responsible for road safety and enforcement of speed limits.

- 1.6.2 The A5025 is an A-class road, a designed AIL route, and operates well below design capacity, therefore is deemed suitable for the transportation of construction traffic. Notwithstanding this, Horizon recognises that Llanfachraeth is a constrained part of the A5025, which is why the A5025 Off-line Highway Improvements include a bypass of the Llanfachraeth.
- 1.6.3 In order to mitigate impacts owing to Wylfa Newydd DCO Project traffic in the early years of construction (before the Off-Line Highway Improvements are open), Horizon have agreed to work together with IACC to provide improvement works to the existing carriageway within Llanfachraeth, in the form of repair works to the surface course and adjustment of manhole covers and gully gratings where necessary. The extents and scope of the repair works required through Llanfachraeth will be agreed following a joint inspection between IACC highways Officers and Horizon Representatives prior to commencement of the project. This commitment will be contained in the draft DCO s.106 agreement, an updated version of which will be submitted at Deadline 6 (19 February 2019).

## **1.7 Accidents**

- 1.7.1 The accident analysis undertaken as part of the DCO Transport Assessment does not indicate that the A5025 through Llanfachraeth has an accident issue. See ES Volume C - Road traffic-related effects (project-wide) App C2-4 - DCO TA Appendix E - Accident Analysis [APP-106].

## **1.8 Proposed HGV Figures**

- 1.8.1 Mr Wright has questioned the amount of HGV movements associated with the Wylfa Newydd DCO Project. To clarify, the DCO application has assessed up to an additional 5,000 HGV movements (two-way) per month and 44 HGV movements (two-way) per hour prior to the completion of the A5025 Off-line Highway Improvements. These figures include all traffic for the development of the Wylfa Newydd DCO Project prior to completion of the A5025 Off-line Highway Improvements. See ES Volume C-road traffic-related effects (project – wide) App C2-3-Traffic Flows document [APP-100] and the Transport Assessment [APP-101].
- 1.8.2 The CoCP has been updated at Deadline 5 (12 February 2019) to include commitments to cap early-years HGV movements to that assessed in the ES as follows:
- 2,500 per month per direction
  - 160 per day per direction
  - 22 per hour per direction
- 1.8.3 Note that the 2016 baseline traffic flows for HGVs through Llanfachraeth is 162 per day (AADT). In 2023 (peak construction year) this falls to just 46 HGVs per day (AADT) owing to the A5025 Off-Line Highway Improvements being

open diverting traffic away from Llanfachraeth. See ES Volume C-road traffic-related effects (project – wide) App C2-3-Traffic Flows document [APP-100].

## **1.9 Local Noise Mitigation Strategy and effects of road traffic induced vibration**

1.9.1 Mr Wright queries the purpose of offering noise insulation at eligible buildings under the village Local Noise Mitigation Strategy (LNMS) if the bypass is to be built. The reason for this is twofold:

- The bypass will be completed before peak construction, but prior to being opened, construction traffic will pass through the village on the existing A5025 alignment.
- The bypass will move the source of the road traffic noise from the existing alignment of the A5025, to the east of the village. In doing so, noise levels at the facades of properties that currently face the A5025 will be reduced, but there will be properties east of the current A5025 where noise levels on currently protected (generally east-facing) facades will increase. The LNMS provides a mechanism for Horizon to offer noise insulation packages for eligible buildings located close to the proposed bypass.

1.9.2 In respect of road traffic vibration, passing vehicles can induce vibrations in buildings in two major ways:

- Low frequency sound produced by large vehicle engines and exhausts can produce detectable vibration in building elements, particularly if they are light and flexible. This is referred to as airborne vibration.
- Forces between the road and tyres can become perceptible in building if heavy vehicles pass over irregularities in the road surface near properties. This is referred to as ground borne vibration.

1.9.3 Airborne vibration in the most exposed parts of a property can be perceptible, but vibration levels in the hard structure of the building are much lower [RD1].<sup>1</sup> Ground borne vibration enters buildings through the foundations and can lead to higher levels of vibration in the hard structure of a building than is the case for airborne vibration.

1.9.4 Concerns over the effect of traffic vibration on buildings which are close to heavily trafficked roads are common; a study on traffic induced vibration conducted in 1984 indicated that 55% of respondents were concerned that vibration could damage their homes [RD1]. However, despite these concerns, studies on vibration induced fatigue, and comparisons of properties fronting heavily trafficked roads with similar age and style buildings in areas away from traffic, “have failed to show any significant effect of traffic vibration on ordinary domestic dwellings or heritage buildings” [RD1]. It is therefore unlikely that an

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<sup>1</sup> [RD1] G R Watts, “Traffic induced vibrations in buildings,” Transport and Road Research Laboratory, Department of Transport, Crowthorne, Berkshire, UK, Research Report 246, 1990.



increase in HGV traffic on the A5025 through Llanfachraeth will result in any vibration induced damage to adjacent properties.

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