

# Garn Fach, Temporary Meteorological Monitoring Mast

## Extended Monitoring Period

### Design and Access Statement

**Applicant: EDF Renewables**

**October 2023**

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#### **1. Development Details**

The Garn Fach met mast proposal (the 'Site') is located approximately 2km west of Llaithddu, 5km north-west of the village of Llanbadarn Fynydd and 8km to the south of Newtown in the County of Powys, Wales (the 'Site'). A planning application for the prospective wind farm site has been submitted by EDF Renewables, an experienced renewable energy developer and operator, and the scheme is currently under determination as a Development of National Significance (ref: DNS3244499).

The location of the mast principally comprises upland grazing land. In general, the land slopes in a southerly direction. An area of commercial forest is located to the south of the Site. The operational Penrhyddlan and Llidiartywaun (P&L) wind farm is located on the north-west boundary of the Site.

The purpose of the extended period of siting for the temporary meteorological mast is to acquire further wind resource data for the prospective Garn Fach site for a further temporary period of up to 5 years.

The met mast measures the wind speed and direction at a height comparable with the anticipated hub height of the wind turbines to be selected for the site, should planning permission be granted.

Planning permission for a temporary monitoring period of 3 years was granted by Powys County Council in May 2020, and the mast was installed on 24/07/2020. An application to the Council to vary condition 3 of the original planning permission to extend the period of monitoring was submitted in September 2023. However, the Council advised that a new application is required as the description of development does not allow for such an extension.

## 2. Design

### ***Context of the Development - Purpose of the Installation***

Mounted at various heights on the mast are a number of instruments which measure wind speed and direction. The wind speed data at four differing heights is recorded, accessed remotely, and thereafter utilised to establish the wind regime for the Site and subsequently calculate the predicted energy output in association with the wind turbine make and model preferred for the site.

### ***Siting the Met Mast***

The location of the proposed mast was selected in order to acquire the best wind profile data for the prospective development site. The data from the met mast will be used in combination with a lidar (remote monitoring device which does not require planning permission), in order to understand not just wind speeds and directions but also to comprehend the effects of topography across the Site and inform turbine micro-siting (along with other considerations).

The mast location is sited to ensure optimum conditions for evaluating the wind resource across the wind farm site, whilst also providing:

- reasonable access off the public road to allow plant, personnel and mast trailer to reach the mast location; and
- sufficient level area to lay out the mast and thereafter to raise and install the mast.

The location of the mast is set out in Figure 1 and the general layout of the proposed mast and guy wires is shown in Figure 2.

### ***Met Mast Description, including Scale***

The met mast installed at the Site is a 90m steel monopole mast held up by high tensile guy wires. The overall height of the mast is no greater than 92m, including the lightning protection rod. The main pole is approx. 220mm diameter steel tube with a galvanised finish.

Guy wires are also galvanised steel.

There is a short section of galvanised chain joining the guy wires to the eight anchors placed up to 50m from the base of the mast.

Please see the attached elevation schematic for a typical drawing of a met mast (Figure 003: Indicative Met Mast Elevation).

### ***Power Supply***

A power supply to the mast has been installed for heating of the instrumentation and powering the low intensity aviation lighting. A solar PV array, comprising a wooden table anchored to the ground with mounted PV panels, is sited on the south side of the mast. A typical illustration of the array is as follows:



### **Security**

Measures have been put in place to secure the mast site. Tamper proof shackles are used on the anchors. These require a special tool to remove, and as such this prevents the mast being cut down via the anchors. Signage is also displayed at the anchors.

Security spikes and anti-climb paint are used to prevent anyone attempting to climb and tamper with the mast.

It is important that the mast is secure, as tampering with the mast, in particular the high tensile guy wires, can cause serious injury.

### **3. Transport and Access Statement**

Access to the mast site was gained via the A483 turning west at Bryn Cwmyrhiwdre along a minor road towards the Site. This is also the access road to the P&L Wind Farm. A farm track from the minor road was then used to reach the mast location.

The route is demonstrated in Figure 4: *Transport Access to Mast Site*.

No new tracks, temporary or permanent, were required for the installation of the mast. The installation team used its judgement to assess the preferred route to the mast location that avoided ground damage or wetted areas.

The total number of vehicles movements to / from the sites was no greater than 15 over the installation period. Thereafter, one vehicle every 3 months has been accessing the

Site for essential maintenance, and will continue to do so in the event that permission for the extended period of monitoring is granted.

No public access to the mast is required and therefore further access arrangements, for example for people with disabilities, are not required.

#### **4. SuDs**

The meteorological mast required nine (9) ground anchors in total. Eight (8) anchors for the guyed wires and a single anchor at the base of the mast.

Each of the eight anchors were 2m x 1m, thereby totalling 16m<sup>2</sup>.

The base anchor was slightly larger at 4m x 2m maximum, equal to 8m<sup>2</sup>.

The solar array required a mounting system equal to 21m<sup>2</sup>.

The total physical landtake for the mast was 45m<sup>2</sup>. As the total landtake is less than 100m<sup>2</sup> it is understood that SuDS Approval Body (SAB) consent is not required for this development proposal.

#### **5. Community Safety**

The proposal Site is private land and there are no access permissions or rights of way in proximity to the met mast scheme. Community safety during operational monitoring is not in threat.

Caution to users of the rights of way will need to be taken by the decommissioning team whilst navigating the tracks to the mast Site.

#### **6. Environmental Sustainability**

The purpose of the proposed meteorological monitoring mast is to measure wind speed and direction. The scheme is not located in an area of ecological sensitivity or remove environmental resources. As such there will be no net loss to environmental sustainability at the met mast Site.

#### **7. Maintenance**

The mast site will be visited every 3 - 6 months by a site engineer, in a 4x4 vehicle. The visit will include instrument checks, a visual check of the mast, guyed wires and anchors, and also ensuring that site signage is still in place.

The instruments will also be monitored remotely, and should any instrumentation fail, additional site visits will be required.

## **8. Decommissioning**

At the end of five (5) years the met mast would be decommissioned. During decommissioning the anchors are removed from the ground, all equipment is removed and the Site reinstated to its former condition.