

Beaufort Wind Limited

Beinn Ghlas Wind Farm Repowering - Technical Appendix 10.1

Outline Construction Traffic Management Plan

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SCP GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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1 BACKGROUND

Proposed Development

- 1.1 Beinn Ghlas Wind Farm is an existing wind farm which comprises 14 600 kW turbines providing an overall installed wind farm capacity of 8.4 MW. The Proposed Development would involve the removal of the 14 operational turbines, replacing them with up to 7 new turbines. After the existing turbines currently at the Site of the Proposed Development are removed the Site would be reinstated except where infrastructure would be used for the Proposed Development.
- 1.2 The Proposed Development infrastructure would comprise the following components:
- Up to seven wind turbines of approximately 4.8 MW each, with a maximum blade tip height of up to 149.9 m;
 - Hardstanding areas at the base of each turbine, with a permanent area of approximately 1,400 m²;
 - Upgrading of four existing road junctions to support construction and abnormal road traffic;
 - Upgrading of 5.19 km of forestry tracks from the A85 through Fearnoch Forest, 0.4 km of Glen Lonan Road (C32) and 2.51 km of existing wind farm access track to accommodate the delivery of abnormal loads to the site and use of 0.42 km of existing track for access to the first construction compound. An internal network of 3.1 km of new onsite access tracks and upgrade of 1.24 km of existing Wind Farm access track. In total there would be 4 new watercourse crossings and 22 existing crossings;
 - Upgrading of the existing onsite sub-station/control building;
 - Transformers and underground cables to connect the turbines to the onsite substation;
 - Permanent anemometry mast for wind monitoring, including associated foundation and hardstanding;
 - Telecommunications equipment;
 - Concrete batching plant;
 - Preliminary temporary construction compound; and
 - Temporary construction compound.

2 INTRODUCTION

Purpose and Scope

- 2.1 This outline Construction Traffic Management Plan (CTMP) is intended to provide information to Argyll & Bute Council (A&BC) and Transport Scotland (TS) in regard to the management of all the construction traffic related to the Proposed Development, with particular reference to environmental safeguards and mitigation required to address impacts identified in the Environmental Impact Assessment (EIA) Report. **Chapter 10: Traffic and Transport** of the EIA Report has been referenced where relevant.
- 2.2 The purpose of the outline CTMP is to set out the areas for consideration when preparing the programme of works and when undertaking the site construction. It would be used during the construction phase of the Proposed Development and updated as necessary, acting as a 'live' document to ensure it is always current. Where the document is updated, it will clearly be noted as a variation.

Key considerations

- 2.3 This outline CTMP is the first stage of the requirement to manage and control all related traffic activity during the construction phase of the Proposed Development. This CTMP contains the following information outlined in **Table 2.1** below:

Table 2.1: Key CTMP Topics

Section	Topic
2	Introduction
3	Construction
4	Mitigation Measures
5	Complaints and Enquiries Procedure
6	Summary and Closure

- 2.4 The principal mitigation measures that the CTMP will cover can be summarised as follows:
- methods for accessing the Site;
 - site access improvements;
 - contractor responsibilities;
 - abnormal load management;
 - on-site management;
 - adverse weather conditions; and
 - driving and speed restrictions.

3 SITE CONSTRUCTION

Programme

- 3.1 It is anticipated that the Proposed Development would be constructed over a period of approximately 23 months.
- 3.2 It is anticipated that construction will commence in October 2032. The peak construction period is anticipated to be month 15.
- 3.3 Activities will include:
- off-site highway works;
 - site establishment (construction compounds);
 - forestry felling and export;
 - construction of access tracks and crane pads;
 - turbine and solar foundation construction;
 - substation civil and electrical works;
 - cable delivery and installation;
 - turbine delivery and erection;
 - solar panel delivery and installation
 - site Commissioning; and
 - reinstatement/restoration.

Construction Staff

- 3.4 The number of people employed during the construction period will vary depending on the stage of construction and the activities ongoing on site.
- 3.5 It is anticipated that the peak workforce requirement would be 50 construction staff.

Hours of Working

- 3.6 The construction working hours for the proposed development would be 07:00 to 19:00 Monday to Sunday. It should be noted that out of necessity some activity, for example abnormal load deliveries, during large concrete pours and also during the lifting of the turbine rotors, may need to occur outside the specified hours stated, although they would not be undertaken without prior approval from Transport Scotland, A&BC and Police Scotland.

Construction Access

- 3.7 Access to the Site would be taken from the A85, along the existing forestry track through Fearnoch Forest and then along Glen Lonan Road (C32) before connecting with the existing Beinn Ghlas Wind Farm site entrance. Access junction details on to and off Glen Lonan Road are illustrated in **Figures 2.10b** and **2.10c** of the EIA. Access junction details on to and off the A35 are illustrated in **Figure 10.4** of the EIA. The onsite track network would use the existing wind farm tracks where possible, with new sections of tracks

required to access certain infrastructure locations. The total length of the Site access and internal access tracks would be approximately 12.86 km of which 3.10 km would be new access track with associated new watercourse crossings and 9.76 km is existing access track and watercourse crossings which would need to be upgraded.

Construction Movements

HGV Movements

- 3.7.1 The maximum level of two-way trip generation would likely occur between month 15 of the programme, with a maximum of 70 two-way HGVs when material would be imported for internal access track construction, the construction compound, turbine foundations and hardstandings and materials for the control buildings and substations. Rock extraction by means of blasting operations is anticipated to be required along the Site Access and when constructing crane pads and turbine foundations. For the purpose of the Traffic and Transport assessment it has been assumed that no construction materials other than ready-mixed concrete will be imported into the Site.
- 3.7.2 An assessment of a worst case scenario has been included in **Chapter 10**, where it is assumed that assumed that 114,058 m³ of excess aggregate would be required to be removed from the site.
- 3.8 The routes for turbine components, which will arrive at Corpach Harbour is illustrated in **Figure 10.6** of the EIA, and described below:
- Loads turn right onto the A830 and proceed eastbound;
 - At the roundabout junction with the A82(T) North Road, loads turn right and head south into Fort William;
 - Loads continue south on A82(T) into Fort William;
 - Loads turn right at the roundabout junction of Glen Nevis Road / A82(T) Belford Road and continue into Fort William;
 - Loads continue along the A82(T) through Fort William, negotiating the roundabouts at An Aird Road and West End;
 - Loads continue along the A82(T) through Glencoe, Bridge of Orchy until junction with A85 in Tyndrum;
 - Loads follow the A85(T) westbound until Dailnamac then turn left onto the Fearnoch Forestry track and continue southbound to the site.
- 3.9 Within the Site, loads would then proceed ahead to the turbine locations.

LGV Movements

- 3.10 Light vehicle trip generation would be a maximum of 100 two-way movements per day at the peak of construction, which will be distributed between the A85 west and A85 east, although likely to be much less with construction staff car sharing, as currently assumed single occupancy.

4 MITIGATION MEASURES

Contractors

- 4.1 Contractors with experience of the nature of the construction works proposed and of this type of renewables development, would be appointed following a tendering process. Beaufort Wind Limited would appoint an independent Environmental Clerk of Works (ECoW) who would liaise with the Contractor to ensure that all activities on site comply with appropriate construction methods, relevant planning conditions and protection of the environment. The ECoW would act as the first point of contact for any concerns.
- 4.2 All contractors would be required to supply detailed method statements which would incorporate all planned mitigation methods. All subcontractors are required to read, understand and adopt all procedures outlined within the CTMP.
- 4.3 Sub-contractors who formulate a CTMP for their work activity must issue it to the Principal Contractor for approval and acceptance prior to site issue. Any traffic management procedures required to secure a work area or safeguard subcontractor operatives must be co-ordinated with the Principal Contractor (e.g. use of banksmen, operatives carrying out works roadside).
- 4.4 The Principal Contractor's Site Management must be informed of any planned site activity and movement of site traffic; the issue of this information must be received with a suitable and agreed timescale to allow co-ordination of other site activities.

Road Signs

- 4.5 Any signage required on the public highway would be erected and positioned in accordance with the requirements of the Traffic Signs Manual and Safety at Street Works and Road Works – A Code of Practice, and in consultation with A&BC and Transport Scotland.
- 4.6 Any permanent signs and street furniture which are required to be relocated to allow abnormal loads to pass shall be identified in consultation with Transport Scotland, A&BC and through the trail run.
- 4.7 Warning signage on the Site must be complied consistently. The two most important signs are 'no entry' and 'no unauthorised vehicles'. In order to proceed beyond these signs, vehicle drivers must stop and contact the ganger/foreman in control of the area to be escorted through the local area.

Abnormal Indivisible Load Management

- 4.8 A preliminary Abnormal Loads Route Assessment (ALRA) has been undertaken as part of site feasibility for the delivery of turbine components from port of entry to the site.
- 4.9 Detailed abnormal load delivery traffic management measures would need to be provided in a standalone report, an Abnormal Load Traffic Management Plan (ALTMP), setting out the mitigation required to address the potential issues the ALRA might identify.

- 4.10 Prior to the movement of abnormal loads, public awareness is required to allow residents to plan and time their journeys to avoid disruption (e.g. non-peak hours or at night). The haulage contractor shall remain responsible for obtaining all necessary permits from the relevant road and bridge authorities along the access route.
- 4.11 The movement of abnormal loads will be timed to avoid periods of heavy traffic flow to minimise disruption to the public. Specific timing restrictions imposed by the police or local authority have not yet been determined at this stage.
- 4.12 Through urban areas temporary parking restrictions may be necessary to guarantee a clear route for the abnormal loads, and these need to be arranged in advance through the appropriate local authority. The parking restrictions would need to be locally enforced.
- 4.13 Due to the size of vehicles required to transport these loads, escorts would be required for the entire route to control oncoming and conflicting traffic.

Adverse Weather Conditions

- 4.14 All works would be forward planned wherever practicable considering the forecast weather conditions. At the start of the day, the site foreman would assess the weather conditions prior to permitting their operatives to access the site.
- 4.15 Due to the location and topography of the Site, the weather can be severe, resulting in an adverse effect on visibility, and will be constantly monitored and if necessary, all plant / vehicle movements would be stopped / suspended by the Site foreman if they deem it is unsafe for work to continue.
- 4.16 Contractors should contact the Principal Contractors general foreman to find out the situation at the Site prior to arrival to the Site, if required.
- 4.17 An example of how the day-to-day track conditions would be advised to all visitors is via a display board situated at the Site compound and the track condition would be rated as either:
 - **Condition Red:** The access track is closed to all vehicular traffic;
 - **Condition Amber:** The access track is open to 4x4 vehicles only (operating in full 4x4) and is not suitable for delivery vehicles; and
 - **Condition Green:** The main Site access track is considered open to all permitted vehicles.
- 4.18 All contractors would be required to make their own assessment of track conditions during access or egress from the Site and take appropriate action determined during their assessment. Over the course of the day, and in the event of weather conditions deteriorating, the Principal Contractor would notify the nominated personnel from the Contractors on site to the present condition.
- 4.19 Contractors would be reminded that they have a duty to consider the weather and track conditions throughout the day and take appropriate action to ensure their safety.

On-Site Management

On-Site Safety

- 4.20 All personnel entering the working area would wear hi-visibility vest or jacket, head protection, safety footwear at all times when out with the vehicle.
- 4.21 Everyone required to work within the Site would be made aware that they have a responsibility for the safety of themselves and others. All site operatives and visitors have a “duty of care” to themselves and others and need to be conscious of the surroundings and ongoing activities locally. In the event of an emergency, right of way to all emergency services would always be given. Emergency services and control of access would be carried out in compliance with the site emergency procedures.

Vehicle Parking

- 4.22 Vehicle parking areas located at the site construction compound would have safe and secure barriers to segregate all personnel from site plant and vehicle routes. All signage within designated car parking areas must be followed, with no vehicles parked in a way which restricts either vision or access. No parking whatsoever would be allowed on public roads; all cars that are directed to the site car park would be required to reverse park to comply with Beaufort Wind Limited and the Principal Contractors requirements.

On-Site Tracks

- 4.23 Access tracks would be monitored daily to identify any deterioration of the track condition. Non-emergency remedial works to the track would be carried out at times outside peak times of usage and significant emergency repairs would be undertaken immediately and adjacent track sections would be restricted from use as required to safely accommodate works.
- 4.24 All routes would be monitored for dust and control or suppression methods would be deployed as appropriate using dust suppression systems.

Site Traffic

- 4.25 All traffic visiting the Site would be required to report to site security where they would obtain clear instructions, before further movement is acceptable. If applicable an induction would be completed, vehicle permits would be issued, and the site rules & emergency procedure would be explained.
- 4.26 All traffic would use the site passing places and all drivers would accommodate other track users in a courteous manner. Reversing (other than to park) within the compound areas would not be permitted.
- 4.27 Full time site traffic (vehicles/plant situated on-site for majority of construction phase) that requires re-fuelling would follow the instructions supplied at their induction and also the guidelines within their method statement for the works.
- 4.28 Heavy site traffic would be equipped with audible reversing warning with additional visual aids e.g. reversing cameras, mirrors utilised on all plant. All safety features must be inspected daily with faults immediately reported to the Foreman Fitter who would assess

and repair any damage to the plant. Management would ensure that all loads are covered fully to limit the loss of material in transit.

Vehicle Cleaning

- 4.29 Given the length of the access track to and from the A85(T), it is likely that most loose materials will not be deposited onto the highway. Should there be evidence of this on any part of the road network used by construction vehicles in the vicinity of the Site, following the commencement of construction, suitable measures would be implemented within the Site to ensure materials are not transferred onto the highway, and road cleaning would take place if required to remove any deposits that are carried from the Site.

Driving and Speed Restrictions

- 4.30 All vehicles (cars, LGVs, HGVs and AILs) shall always be driven in a safe but defensive driving manner, within posted speed limits. A 3-strikes policy shall be adopted by all Contractors unless any breach is deemed to be of such a serious nature that warrants immediate dismissal from the Site.
- 4.31 All cars and drivers of site operative vehicles used for commuting to and from site must be road worthy and legally compliant. All commercial vehicles and drivers must be road worthy and legally compliant.

5 COMPLAINTS AND ENQUIRES

General

- 5.1 It is important that members of the public or interested parties can make valid complaints or enquiries about the transport elements of the construction works. Such complaints and enquiries can provide a valuable feedback mechanism which helps reduce potential impacts on sensitive features and would also allow the construction techniques to be refined and improved.
- 5.2 It is anticipated that the complaints and enquiries procedure can be made either directly to the site contractor or via A&BC and Transport Scotland as applicable, who in turn would provide feedback to the site contractor.
- 5.3 All complaints and enquiries would be logged promptly by the site contractor and kept on site for review by A&BC upon request.

Checking and Corrective Action

- 5.4 As outlined above, it is intended for the CTMP to be a 'living document' which is updated periodically as and when required.
- 5.5 The Contractor would be responsible for establishing a programme of monitoring, the results of which shall be fed back for inclusion within the CTMP if necessary.
- 5.6 Any checking or corrective action required would also be monitored. This methodology would ensure that the construction activities are being undertaken in accordance with the CTMP and that the Contractors are held to account.
- 5.7 A procedure for addressing non-conformance/compliance and ensuring that corrective actions are undertaken is outlined below:
 - completion of a Non-Conformance Report – this would record any traffic related incident and work that has not been carried out in accordance with the CTMP or Method Statement;
 - completion of a Corrective Action Report – this would record any identified deficiency as a result of monitoring, inspection, surveillance and valid complaint; and
 - action – any necessary actions identified as a result of the above would be allocated to a responsible person, along with a timescale for the action to be undertaken.
- 5.8 Records of the above would be retained by the Contractor throughout the construction process. The records would be maintained either in hard copy or electronically in such a manner that they are readily identifiable, retrievable and protected against damage, deterioration or loss.

6 SUMMARY

- 6.1.1 This Outline CTMP identifies the high-level principles for managing the effects of vehicles associated with the Proposed Development during construction.
- 6.1.2 The CTMP is a 'live document' and will be regularly reviewed by the Applicant (as appropriate, in conjunction with appointed contractor(s)) prior to and during the construction phase. The CTMP will accordingly be subject to amendment through the detailed design and construction stages to ensure the most appropriate and effects measures are implemented and, as necessary, approved by the Council. The preparation of the Detailed CTMP will be a condition to the planning consent.
- 6.1.3 Management measures have been identified for the transport of HGVs and general construction traffic, which when implemented will help to ensure that the route to site remains a safe environment and disruption to local traffic flows are kept to a minimum.