



Environmental Statement - Volume 3

(Environmental
Management Plan)

Scout Moor II
Further Environmental Information

This document provides a summary of all the mitigation measures identified in the Environmental Impact Assessment (EIA) process in order to manage the environmental effects during the construction, operational and decommissioning stages and to establish a suitable mechanism to secure and deliver mitigation. This document should be read in conjunction with **Volume 1: Primary Report and Supporting Graphics** and the EIA Scoping Report (**Appendix 2.1**) and Statutory Consultation Comments (**Appendix 2.2**).

As set out in **Chapter 2: Approach to EIA** of **Volume 1**, the EIA has considered primary, secondary and tertiary mitigation in line with the Institute of Environmental Management and Assessment's (IEMA) (now Institute of Sustainability and Environmental Professionals (ISEP)) *Implementing the Mitigation Hierarchy from Concept to Construction*^a. These are defined as follows:

- **Primary** – modifications to location or design made during the pre-application stage that are an inherent part of the project;
- **Secondary** – actions that will require further activity in order to achieve the anticipated outcome; and
- **Tertiary** – actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

All primary, secondary and tertiary mitigation measures referenced / utilised throughout **Technical Chapters 6 – 15** of **Volume 1** have been collated and are summarised in the Environmental Management Plan (EMP) (**Table 1.1**).

The mitigation relied upon to 'scope out' technical topics within the EIA Scoping Report (**Appendix 2.1**) and, where appropriate, in **Technical Chapters 6 – 15** of **Volume 1** is included within the Environmental Management Plan (EMP) (**Table 1.2**) (note that where this has been superseded / updated following further mitigation development in the Environmental Statement (ES), this is contained within the first tabular summary).

The mitigation outlined below will be secured by way of a planning condition attached to any planning permission or a planning obligation.

^a Institute of Environmental Management and Assessment (IEMA)), (2024). *Implementing the Mitigation Hierarchy from Concept to Construction*.

Table 1.1: Further Environmental Information Environmental Statement

Technical topic / stage	Primary, Secondary and Tertiary mitigation The primary, secondary and tertiary mitigation measures presented below have been collated from Technical Chapters 6 – 15 of Volume 1
Transport and Access	
Construction	• The provision of a Construction Traffic Management Plan (CTMP), including specific Abnormal Indivisible Load (AIL) measures; • The provision of a public roads “Wear & Tear” Agreement to cover any incidental damage on the road network caused by the temporary increase in traffic; • Public information campaign and Road Signage strategy; • The use of a Staff Travel Plan to reduce the level of single occupancy vehicle trips to and from site; • The provision of an Abnormal Load Transport Management Plan (TMP) to support the safe and efficient access of turbine components to site; • The segregation of path, bridleway and public right of way (PRoW) users from construction traffic movements by safe crossing points and the overall layout of access track infrastructure to minimise interactions; • No construction traffic will travel up / down Rooley Moor Road and associated gates will be maintained; • A Path Management Plan is proposed to address issues relating to traffic interactions with path, bridleway and PRoW users. The main measures are as follows: – Users of the PRoW will be separated from construction traffic through the use of barriers. Crossing points will be provided where required, with path users having right of way. Appropriate Traffic Signs Manual Chapter 8 -compliant temporary road signages would be provided to assist at these crossing for the benefit of all users; – The appointed contractor(s) will ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the Rights of Way and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where path users may interact with construction traffic; and

Technical topic / stage	Primary, Secondary and Tertiary mitigation The primary, secondary and tertiary mitigation measures presented below have been collated from Technical Chapters 6 – 15 of Volume 1
	– Signage will be installed on the site exits that makes drivers aware of the agreed site speed limit and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in the weekly toolbox talks. – Measures implemented on similar schemes and suggested by the British Horse Society will be given consideration and included in the site training for all heavy goods vehicle (HGV) staff: – On seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible; – If the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so); – The vehicle should not move off until the riders are well clear of the back of the HGV; – If drivers are wishing to overtake riders, approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and – All drivers delivering to site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves. • AIL traffic will travel to the site via Princes Way, A5036, M58, M6, M65, A56, B6527 and A680. Escort vehicles would accompany the AIL convoys to support the traffic management measures.
Operation	n/a
Decommissioning	n/a
Noise and Vibration	
Construction	• Section 8 of BS 5228 recommends a number of simple control measures as summarised below that would be employed on-site as part of a Construction Environmental Management Plan (CEMP) during construction:

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Primary, Secondary and Tertiary mitigation

The primary, secondary and tertiary mitigation measures presented below have been collated from **Technical Chapters 6 – 15 of Volume 1**

- Keep local residents informed of the proposed working schedule, where appropriate, including the times and duration of any abnormally noisy activity that may cause concern;
 - Ensure that any extraordinary site work continuing throughout 24 hours of a day (for example, crane operations lifting components onto the tower) would be programmed, when appropriate, so that haulage vehicles would not arrive at or leave the construction site between 19:00 and 07:00, with the exception of abnormal loads that would be scheduled to avoid peak traffic times;
 - Ensure all vehicles and mechanical plant would be fitted with effective exhaust silencers and be subject to programmed maintenance;
 - Select inherently quiet plant where appropriate – all major compressors would be ‘sound reduced’ models fitted with properly lined and sealed acoustic covers, which would be kept closed whenever the machines are in use;
 - Ensure all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers;
 - Instruct that machines would be shut down between work periods or throttled down to a minimum;
 - Regularly maintain all equipment used on-site, including maintenance related to noise emissions;
 - Vehicles would be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation; and
 - Ensure all ancillary plant such as generators and pumps would be positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures should be provided.
- Construction of the temporary laydown area on Scout Road should only occur during the weekday daytime hours (07:00 - 19:00) and Saturday daytime hours (07:00 - 13:00) (i.e. not during the evening and weekend periods);
 - The use of diesel generators for lighting and similar, will be avoided within the temporary laydown area during BS 5228 night-time hours (23:00 - 07:00), wherever possible;
 - Should lighting be required during night-time hours, for example for safety or security reasons, additional mitigation measures will be required, such as, the implementation of an acoustic barrier in a U shape formation around any generator.

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	This could provide between 5-10 dB(A) of attenuation at the dwelling (as detailed in F.2.2 in British Standard (BS) 5228), which would sufficiently lower the noise level below the 45 dB(A) night-time threshold level; and Careful placement of noise sources within the temporary laydown area should also be considered (where possible) to maximise screening between the noise source and the dwelling by using the non-residential buildings situated directly opposite the laydown area as barriers.
Operation	- Operational noise has been a key consideration throughout the design process for the Project for Assessment. The design presented in this assessment is the result of an iterative process, to ensure that the final wind turbine layout and their locations strike a balance between maximising the potential for renewable energy generation while providing appropriate protection of residential amenity; and - Wind turbine mode management would be required, applicable to a limited number of turbines for a specific range of wind speeds and directions to ensure that the Site Specific Noise Limits are met. Following confirmation of the choice of turbine to be installed on-site, an Operational Noise Management Plan will be devised and enacted to ensure that no exceedances of the Site Specific Noise Limits will occur. This will take the form of a scheme of low noise operational modes to be used under specific wind conditions. Further detail on the specific turbines which would require mitigation and the turbine modes necessary to meet the Site Specific Noise Limits are provided in Section 6.11 of Appendix 7.2. A set of suggested Noise Conditions are presented within Appendix 7.2 Annex 9 which present Site Specific Noise Limits for all NALs.
Decommissioning	As set out for construction above.
Shadow Flicker	
Construction	n/a
Operation	Operational shadow flicker has been a key consideration throughout the design process for the Project for Assessment. The design presented in this assessment is the result of an iterative process, to ensure that the final wind turbine layout and their locations strike a balance between maximising the potential for renewable energy generation while providing appropriate protection of residential amenity; and

Technical topic / stage	Primary, Secondary and Tertiary mitigation The primary, secondary and tertiary mitigation measures presented below have been collated from Technical Chapters 6 – 15 of Volume 1
	A shadow flicker turbine control system will be installed during the construction of the wind farm that can be used to mitigate the effects of shadow flicker. The system will halt turbines when the system detects that it is geometrically possible for shadow flicker to occur and the environmental conditions necessary for shadow flicker to occur (the sun shining and the wind blowing) are present. The operation of these systems can be proactive, reactive, or both. It is proposed that a combined approach is adopted, where predicted shadow flicker impacts on SFALs located within 10 rotor diameters of a proposed wind turbine will be proactively mitigated using a shadow flicker control system. Reactive mitigation will be used for all properties located beyond 10 rotor diameters of a turbine. Shadow flicker control systems will be included on the wind turbines and the system would be designed based on a detailed survey undertaken post-consent. This will be provided as part of an operational shadow flicker management strategy. The installation, set up, and operation of the shadow flicker control system can be secured by requirements to the development consent, in the form of a suitably worded planning condition.
Decommissioning	n/a
Ecology	
Construction	- The design has evolved iteratively to minimise the effect on potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs) and peat habitats and ecological receptors through taking account of National Vegetation Classification (NVC) results and hydrological assessments, protected species survey results and the location of watercourses. The Project for Assessment has been designed to minimise works in the vicinity of mapped watercourses and to minimise the need for new water crossings, to reduce the risk of pollution and changes to watercourse morphology; - The CEMP will include but not be limited to best practice measures for pollution prevention of watercourses / waterbodies, fencing (e.g. Heras or similar) of areas not subject to works in order to protect habitats / species present, daytime working, employment of Reasonable Avoidance Measures (RAMs) for protected species, presence of an Ecological Clerk of Works (ECoW), pre-construction surveys, covering of excavations and / or provision of ramps to avoid trapping wildlife and no use of overnight lighting near habitat features;

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Primary, Secondary and Tertiary mitigation

The primary, secondary and tertiary mitigation measures presented below have been collated from **Technical Chapters 6 – 15 of Volume 1**

- Any new roads / tracks will be designed at an appropriate camber with drainage and filters / screens to ensure any leaching or pollutant spill is avoided into adjacent waterbodies via engineering design. A Pollution Risk Assessment would be carried out identifying materials, areas and activities of greatest risk and laying out controls on these. From this a Pollution Prevention Plan (PPP) would be prepared. The PPP would be a sub-plan of the CEMP (although the PPP would also be taken forward and be in place during operation (including maintenance) and decommissioning stages). All works such be carried out in accordance with the CIRIA *Control of water pollution from construction sites: Guidance for consultants and contractors (C532)* to protect water quality;
- Whilst four new watercourse crossings would be required for proposed new access tracks surrounding turbines T10, T14 (x2) and T16, potentially requiring installation of a culvert, habitat loss on banks and disturbance whilst completing these works will be minimised;
- Any security fencing around the Project for Assessment will be designed with regular small gaps at the base to allow the passage of mammals such as hedgehog and badger;
- Protective fencing will be installed, and appropriate signage implemented to define the working area and avoid encroachment onto Knowl Moor Sites of Biological Importance (SBI) and Scout Moor Biological Heritage Site (BHS). The mitigation measures proposed would be developed within the CEMP;
- There would also be an emergency plan for the construction stage to deal with accidental spillages included in the CEMP;
- Incidental habitat loss would be avoided by minimising the footprint of construction activities. This would be achieved by:
 - Operating machinery and storing materials within the footprint of permanent construction features wherever practicable; and
 - Ensuring that vehicles and their operators do not inadvertently stray onto adjacent habitat areas.
- Other measures within the CEMP would be:
 - Reinstatement of habitats – best practice techniques for vegetation and habitat reinstatement would be adopted and implemented on areas subject to disturbance, such as the temporary construction compound area, as soon as is reasonably practicable;

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Primary, Secondary and Tertiary mitigation

The primary, secondary and tertiary mitigation measures presented below have been collated from **Technical Chapters 6 – 15 of Volume 1**

- Materials and other temporary infrastructure would be removed off-site and all temporary construction areas will be reinstated;
 - The surface layer of soil and vegetation would be stripped separately from the lower soil layers, stored separately, and replaced as intact as possible once the construction stage is complete. Turf material will be replaced as far as reasonably practicable in similar locations to where it was removed;
 - Soils removed from the excavated area would be stored separately in piles, no greater than 3m in height, directly adjacent to, or near the tracks on ground appropriate for storage of materials (i.e. relatively dry and flat ground, a minimum of 50m away from watercourses);
 - Wherever reasonably practicable, reinstatement of ground disturbed to facilitate construction of the track would be carried out as track construction progresses;
 - No refuelling would be permitted at works locations within 50m of watercourses (where reasonably practicable);
 - There would be no direct dewatering to watercourses during the construction stage. All outflows from drainage associated with construction would be by diffuse overland drainage at appropriate locations;
 - The time between excavating and backfilling of individual sections of cable trench would be minimised near GWDTEs. As a rule, these should be backfilled within three days to minimise drying and disturbance;
 - Impermeable barriers and / or clay plugs would be used to avoid the trenches acting as preferential conduits of groundwater; and
 - Areas of identified sensitivity (GWDTE and priority peat) would be marked out / fenced to prevent accidental vehicular access.
- As there would be potential for fauna to access the Assessment Boundary, excavations / holes will be covered at the end of each working day, or a wooden plank placed inside to allow faunal species to escape, should they enter the hole. Any temporarily exposed open pipe system would be capped in such a way as to prevent wildlife gaining access;

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- Works would be conducted during daylight hours where possible, avoiding the sensitive periods of dawn and dusk when wildlife is most active. Where works cannot be restricted to daylight hours and where lighting is required, hoods should be used and lights directed at works and away from any habitat features potentially used by species;
- No in-channel obstructions (floodlighting, fencing or diversions) would be permitted within watercourses unless specifically authorised in writing by the relevant authority (i.e., Environment Agency and / or a suitably experienced freshwater Ecologist);
- Measures would be implemented to reduce the potential for construction impacts to bats, e.g., downward-directed artificial lighting would be used to shine light to the working area only and reduce 'light leakage' that may temporarily affect bat flightlines;
- Where appropriate and safe to do so, all construction working areas with potentially suitable open habitats for reptiles and amphibians would initially be cut during the active season for reptiles and amphibians (March to October, inclusive);
- The works would be carried out under the supervision of the ECoW. Working areas would then be kept unsuitable for reptiles and amphibians through regular cutting until construction in that location commences;
- In the event that a protected species is discovered on-site, all work in that area would stop immediately and the ECoW would be contacted. Increased buffer areas may be required in these locations. Details of the local police Wildlife Crime Officers, Natural England Area Officer, and Royal Society for the Prevention of Cruelty to Animals (RSPCA) relevant Officer would be held in the site emergency procedure documents;
- No new ground would be cleared without prior inspection by the ECoW to enable herpetofauna, small mammals and invertebrates, should they be present, to disperse before clearance;
- A site speed limit of 15 mph would be in place at all times to reduce the risk of collision and protected species mortality associated with construction vehicles;
- A 30m buffer will be maintained around the badger sett location during works which may include boundary fencing;
- A pre-construction badger survey will be carried out prior to works commencing to ensure there has been no new additional sett creation within the Assessment Boundary;

- If any new badger setts are identified within 30m of the Project for Assessment footprint, then they may require closure under licence, dependant on their location and level of likely impact. A licence would be required from Natural England if exclusion of badgers from a sett temporarily / permanent and / or destruction of a sett is unavoidable. If a licence is required, licence conditions for working periods are likely to be included. Closure of a sett cannot take place between December and June (inclusive of when badgers are breeding) as the winter months are when badgers are giving birth to their young or in torpor. Works would not commence until the licence had been awarded and would follow the measures included in the licence Method Statement;
- A pre-construction water vole survey will be carried out prior to works commencing to ensure no evidence is present within any ditches where a crossing is proposed. A licence to displace water voles may be required from Natural England if water vole presence is confirmed during the surveys and if the works will intentionally damage or destroy burrows or displace water voles from their burrows for the Project for Assessment. This includes:
 - Cutting vegetation back to bare earth in the spring;
 - Carrying out a destructive search of water vole burrows following removal of vegetation; and
 - Destroying water vole burrows after a destructive search.
- Displacement is recommended under the following circumstances:
 - Where there is a working area with a maximum length of 50m (for watercourses this equates to 50m on each bank), although a shorter maximum length will be appropriate in situations where water voles are at a higher density;
 - In England, works are conducted between 15th February and 15th April inclusive; and
 - Where there is sufficient available alternative habitat for water voles to move into.
- Works would not commence until the licence had been awarded and would follow the measures included in the licence Method Statement.
- A pre-construction otter survey will be carried out prior to works commencing to ensure no holts have been constructed on the Assessment Boundary. If the Project for Assessment cannot avoid an offence with respect to otters, an European

Protected Species (EPS) licence will be required from Natural England to allow work to proceed. Such a licence can only be issued if it can be demonstrated that:

- The purpose of the licence is to preserve public health or public safety or for other imperative reasons of overriding public interest;
 - There is no satisfactory alternative; and
 - The proposed action will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- If the destruction of an otter holt or potential otter holt is necessary, it must be carried out when the otters are not present. Confirming that a holt is inactive requires a period of monitoring by checking activity at the holt with wildlife cameras. The entrances may be lightly blocked with vegetation if they remain undisturbed throughout the monitoring period, the holt may then be destroyed immediately using a mechanical digger, under the supervision of the licence holder. If the holt is used for breeding, then it may be necessary to wait for 10 weeks or more until the cubs are able to leave. Works would not commence until the licence had been awarded and would follow the measures included in the licence Method Statement;
 - Whilst pond P1 was found to support a small breeding population of great crested newt (GCN), this pond is located over 1km from any infrastructure within the Project for Assessment; therefore provided that this distance is maintained then no licensing for this pond is required;
 - Precautionary working measures should be implemented prior to and during construction to prevent killing or injuring amphibians and reptiles utilising the Assessment Boundary, including the implementation of phased vegetation clearance of suitable habitat such as tussocky grassland and unmown field margins;
 - Initially, any vegetation to be removed in these habitats should be cut down to approximately 150mm above ground level by hand under the instruction and supervision of a competent ecologist. This should persuade amphibians and reptiles to move away from the works areas due to the disturbance and reduced amount of cover. After at least 24 hours, the vegetation should then be cut down to ground level, again under the instruction and supervision of the ECoW. A fingertip
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search will be undertaken by the ECoW in this vegetation. Any individual amphibians and / or reptiles found during these clearance works at any time will be carefully captured by hand and translocated away from the works by the ECoW;

- The topsoil should then be stripped immediately after the fingertip search under the instruction and supervision of the ECoW and stored on-site to be reused. Again, any amphibians and / or reptiles found at this stage will be carefully captured and translocated away from the works;
- The removal of any potential hibernacula (i.e. stone piles / dead wood) and scrub should be undertaken outside of the hibernation period during the active period for amphibians / common reptiles, typically between March and October (weather dependent). In the long-term, mitigation for the loss of any suitable habitat should be compensated through creation of refugia in the form of log piles within areas of retained habitat;
- In the unlikely event that any GCN are discovered in proximity to the Project for Assessment, advice should be sought from an ecologist and licensing may be required issued by Natural England. Although the law provides strict protection to GCN, it also allows this protection to be set aside (derogated) under Regulation 53 of The Conservation of Habitats and Species Regulations 2017 (as amended) through the issuing of EPS licence for the purpose of preserving public health, public safety, other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment. However, in accordance with the requirements of regulations a licence can only be issued where the following requirements are satisfied that:
 - There is no satisfactory alternative; and
 - The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- A licence can take up to 12 weeks to process and once granted, any mitigation specified in the licence application would need to be undertaken prior to works commencing and specified methodologies followed during construction; and
- The delivery of the moorland restoration proposals, through the Moorland Restoration and Management Plan.

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Operation	• In the unlikely event that a pollution event occurred with the potential to affect Knowl Moor SBI and / or Scout Moor BHS a Suitably Qualified Ecologist would be sought, with any further mitigation required as a result of their advice installed; • The proposed and upgraded access tracks would be left in place after completion of the construction stage as they will provide access for maintenance, repairs, and the eventual decommissioning stage; • Hardstanding areas at each turbine location would be retained for use in ongoing maintenance operations, with the edges as far as reasonably practicable blended to the adjacent contours with natural vegetation being allowed to re-establish; • A site speed limit of 15 mph would be in place to reduce the risk of faunal collisions with maintenance vehicles; and • The substation lighting will be bat friendly, directed away from any bat features, including watercourses which will also safeguard otter and water vole, and will be activated by motion sensors to reduce any night-time illumination impacting any foraging or commuting bats. There will be no other new lighting within the Assessment Boundary with the exception of aviation warning lights placed at the height of the turbines.
Decommissioning	As set out for construction above.
Ornithology	
Construction	• The CEMP will include information on the following ecological related activities: – Construction works will require a Construction Method Statement (CMS) to be prepared post-determination and in advance of the commencement of construction on-site; and – Construction works will be overseen by an Ecological Clerk of Works (ECoW) and their role and responsibilities will be detailed in a CEMP. • A toolbox talk will be provided during the induction process, detailing that there may be sensitive species present during the construction period and identifying any restrictions on work which may be in place and the process for flagging potential issues to the ECoW; • Wherever possible, vegetation clearance will take place outside the bird breeding season (i.e. September – mid-March). Should this not be possible, then the vegetation to be removed will be searched by a suitably qualified ecologist no more

Technical topic / stage	Primary, Secondary and Tertiary mitigation The primary, secondary and tertiary mitigation measures presented below have been collated from Technical Chapters 6 – 15 of Volume 1 than 24 hours before clearance commences. During construction, within the breeding season, regular breeding bird checks would be carried out in proximity to active construction areas to identify bird nests; • Nests of non-Schedule 1 or non-Annex 1 species present will be marked with a buffer (likely to be 5m but can be less with ECoW oversight) to prevent damage to the nest. This buffer can only be removed with ECoW approval once they have confirmed the nest is no longer in use; • In the 12 months before construction commences, breeding raptor surveys should be undertaken (and should also be carried out during construction if construction falls within a breeding season) with the aim of identifying the presence of any Annex I or Schedule 1 species which may be disturbed by the construction work; and • Should the nest of an Annex 1 or Schedule 1 species be located, then disturbance buffers based on guidance (currently Goodship & Furness, 2022) will be established around the nest and no construction activity should be allowed within this area. The ECoW will carry out a risk assessment if access roads are within the buffer distance of the nest to establish if they can be used without unlawfully disturbing specially protected species.
Operation	• A Habitat Management and Monitoring Plan has been provided in outline and will be submitted to RBC and RMBC for approval, in consultation with Natural England, before construction commences. This aims to monitor the occurrence of sensitive species on-site with a view to identifying adaptative habitat management measures to support species which appear to be declining. It aims to particularly improve the quality of blanket bog habitats on-site and the extent of native habitats through the promotion of rewilding in the wider area. This would have the potential to increase the suitability of the Assessment Boundary for upland species.
Decommissioning	As set out for construction above – informed by the results of any monitoring conducted prior to decommissioning commencing.
Landscape and Visual	
Construction	• The design of the Project for Assessment has been a staged process with the aim of arriving at an optimal design configuration in respect of landscape and visual effects. The design has sought to achieve a coherent and balanced turbine

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layout from most of the key viewpoints as well as other standard wind farm design guidance provided within the Siting and Designing Wind Farms in the Landscape by NatureScot (Version 3a August 2017);

- The following site-specific landscape and visual design aims were set out to shape the design development:
 - Set back of turbines into the moorland landscape to reduce landscape and visual impacts on Whitworth and the Irwell Valley;
 - Removal of turbines 13 and 17 to minimise impacts on Cowpe;
 - Maintain an offset from nearest residents to reduce the potential for visual effects to be seen as ‘overbearing’ in terms of residential visual amenity;
 - Whilst the turbines would be located on both sides of Rooley Moor Road, there has been an offset from the route to reduce impacts;
 - Minimise the number of wind farm access track crossing point of Rooley Moor Road and where it is crossed, and reduce the long term effects of introducing a new track crossing point on the road;
 - Minimise impact of the site access;
 - Position the substation off the highest part of the moorland, reducing impacts on those using Rooley Moor Road and the Pennine Bridleway, and positioning closer to the moorland fringe landscape type and existing woodland to integrate screen planting;
 - Reduced lighting scheme to reduce the number of visible lights required on both the nacelles and towers.
 - Protection of highly valued landscape features that are to be retained within the Assessment Boundary, including Rooley Moor Road, PRoWs, common land, and areas of higher quality peatland;
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Primary, Secondary and Tertiary mitigation

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- Placing of turbines on gentler gradients, where possible, to minimise the groundworks necessary to accommodate the turbine bases, crane pads and access requirements;
 - Utilising existing access tracks from Scout Moor Wind Farm and in order to minimise requirement for a new site access and access tracks;
 - Location of temporary construction compound out of sight from nearest parts of Rooley Moor Road;
 - Maintaining the construction working areas on-site and temporary construction compound in a tidy and contained condition and management of public access / recreation across on-site;
 - Temporary diversion of recreational routes and open access land to enable access across the moor;
 - Removing and restoring all temporary construction materials and areas on-site once work is completed; and
 - Controlling construction lighting.
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Operation	• Provision and implementation of Moorland Restoration and Management Plan, Outline Peat Management Plan as well as an Outdoor Access Management and Enhancement Plan to take advantage of the opportunities to improve both aspects across the moor; • Provision for adequate maintenance of site facilities and landscape features such as proposed planting at the substation, Rooley Moor Road crossing point and access tracks; • Adjustments and reduction in numbers of wind turbines to improve visual composition and minimise inconsistent turbine spacing, such as, relatively large gaps, outliers or excessive overlapping turbines to achieve a relatively balanced array from most views; • Location of substation compound on the edge of the moorland where mitigation planting would be more in keeping with local landscape features, in order to mitigate some of the impact of this feature; • A reduced lighting scheme whereby only 8 of the nacelles would require lighting as well as automatic dimming of the lights during periods of good visibility of over 5km, and timer activated lighting to ensure that day time impacts would not occur; and • Use of ‘Reduced vertical directional intensity’, which has the potential to reduce the intensity of the lights for nearby receptors located at elevations below the turbine nacelles. This would reduce the light intensity by up to 95%. This mitigation is reliant on the specific design of the light, which has not been specified at this time.
Decommissioning	As set out for construction above.
Built Heritage	
Construction	• Localised site clearance will be undertaken at the temporary laydown area / construction compound, substation site access tracks / crossings and the wind turbine locations with associated hardstanding (e.g. crane pads); • Internal site track layout has been designed to limit vehicular crossings of Rooley Moor Road as a non-designated heritage asset and public route (with a single crossing point proposed). A layer of terram (or similar) will be laid over the existing road surface to prevent aggregate migration, followed by a geogrid with a layer of crushed stone to create the crossing surface.

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	The historic road will be reinstated to its original form for the operational life of the wind farm, with a maintenance track junction re-graded to match the roads original levels; • Site restoration following the initial construction works, which will reduce the visibility / extents of temporary infrastructure works; • Maintaining the temporary construction compound in a tidy and contained condition; • Removing and restoring all temporary construction materials and areas once work is completed; and • New signage and interpretation boards will be installed at locations considered to be leisure destinations or landscape / heritage / ecological assets.
Operation	• Adjustments and reduction in numbers of turbines to improve visual composition and minimise inconsistent turbine spacing, such as, relatively large gaps, outliers or excessive overlapping turbines to achieve a relatively balanced array from most views; and • Location of substation compound on the edge of the moorland where mitigation planting would be more in keeping with local landscape features, in order to mitigate some of the impact of this feature.
Decommissioning	As set out for construction above.
Archaeology	
Construction	• Localised site clearance will be undertaken at the temporary staging areas / laydown areas / construction compound, substation site access tracks / crossings and the wind turbine locations with associated hardstanding (e.g. crane pads); • A number of heritage assets will be retained via avoidance and demarcation (where appropriate) during the site clearance works; • The proposed grid connection route follows part of the line of the Cowpe Lowe/Cragg Quarry Tramway (Asset 189) which is used as a public footpath. Within the Assessment Boundary, the former tramway primarily has a gravel surface although

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The primary, secondary and tertiary mitigation measures presented below have been collated from **Technical Chapters 6 – 15 of Volume 1**

some lengths of stone surface survive south of Cragg High Level Tank. In areas of surviving stone surface, the cable will be laid outside of the track surface to allow for its preservation *in situ*;

- Where new tracks are proposed across areas of deep peat (>1m), floating road construction techniques will be used to limit the potential for ground penetration and damage to the underlying peatland;
- No wind turbines / infrastructure will be sited in areas where the depth of peat deposits exceeds 1m, where possible;
- Internal site track layout has been designed to limit vehicular crossings of Rooley Moor Road as a non-designated heritage asset and public route (with a single crossing point proposed). A layer of terram (or similar) will be laid over the existing road surface to prevent aggregate migration, followed by a geogrid with a layer of crushed stone to create the crossing surface. The historic road will be reinstated to its original form for the operational life of the wind farm, with a maintenance track junction re-graded to match the roads original levels;
- New signage and interpretation boards will be installed at locations within the Assessment Boundary considered to be leisure destinations or landscape / heritage / ecological assets;
- Prior to commencement of works all historic landscape features that will be impacted by the Project for Assessment will be subject to a programme of archaeological and / or historic building recording details of which will be set out in a Written Scheme of Investigation;
- Prior to any ground breaking works at the Rooley Moor Road crossing and in well preserved areas of Cowpe Lowe/Cragg Quarry Tramway surface along grid connection Option C, a full photographic and measured survey of the road surface will be undertaken to provide a permanent record of its current condition and to allow for full reinstatement. The surface of the road will be removed under archaeological supervision and all ground breaking works for cable trench excavation will also be undertaken under archaeological supervision. Following installation of the cable, the surface of the roads will be restored to their current form and a photographic survey will be undertaken for comparison to ensure that it is restored to its previous ground level, alignment and condition;
- Undertaking of archaeological survey and recording works in advance of development will also allow for development of a programme of public benefit which will include the engagement of Rossendale Civic Trust and other local community groups and individuals in taking part in surveys allowing them to benefit through lifelong learning, community involvement

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and skills development and ensuring that valuable local knowledge about the history and archaeology of the area is recorded. The results of the survey will also be fed into both on-site and off-site interpretation resources and local / digital dissemination of information relating to the spatial and temporal archaeological landscape, based on the remains surviving within the Assessment Boundary. Public interpretation would contribute towards promoting a legacy of public engagement whilst benefitting heritage, tourism, local education and health agendas. Such interpretation could take the form of history trails, guided tours, information booklets and boards, and local museum displays. The scope and requirement of any public benefit and interpretation will be undertaken in consultation with the Applicant, Historic England, Greater Manchester Archaeological Advisory Service (GMAAS) / Lancashire County Council Historic Environment Team (LCCHET) and the Council for British Archaeology (CBA);

- Where archaeological features or upstanding assets are to be preserved in situ but are located within 50m of working areas an archaeologist will supervise the erection of fencing to prevent inadvertent damage by vehicle movements (tracking of heavy vehicles can cause damage via deposit deformation);
- With the application of microsite allowance, one feature (a former field barn (Asset 772)) could be avoided;
- A programme of archaeological works is likely to be required prior to construction. A programme of intrusive archaeological investigation, initially via evaluation trenching, targeted on areas of highest potential will also be undertaken;
- Any decision relating to the requirement for and scope of further works will be made by GMAAS and LCCHET as advisors to the Local Planning Authorities on archaeological matters. The scope and methodology of such works would be set out in a Written Scheme of Investigation (WSI) for approval by these bodies prior to commencement. If significant archaeological features are encountered, further archaeological works, including full excavation and a programme of post-excavation works may be required; and
- A programme of geoarchaeological investigation in the form of a purposive borehole sampling survey will be undertaken within the west of the Assessment Boundary around Cowpe Moss where peat depths are modelled to be in excess of 2m. The sampling strategy will be designed in consultation with Historic England.

Operation

n/a

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Decommissioning As set out for construction above (where relevant to the works).

Hydrology, Hydrogeology and Peat

Construction	• All wind farm infrastructure has been sited with an objective to maintain at least a 30m 'buffer zone' from medium / high sensitivity natural watercourses and water bodies shown on 1:50,000 scale and 1:25,000 scale Ordnance Survey mapping; • All infrastructure is located outside of flood zones, except for watercourse crossings; • Wind farm infrastructure was designed to minimise the number of new watercourse crossings, and existing access tracks have been utilised where possible; • Avoidance of peat, where possible. Further investigation of the ground conditions and micro-siting of the tracks and wind turbines will be undertaken to ensure the minimal amount of peat is disturbed; • All wind farm infrastructure has been designed, where possible, to avoid potential peat landslide hazard risk areas and further investigation to identify detailed peat landslide mitigation will be undertaken post-consent; • Where feasible, and considering other constraints, floating tracks are proposed where tracks are located on peat >0.5m depth and slopes are <5 degrees, to reduce peat excavation; • Where possible extracted peat will be appropriately reused and restored concurrently without storage. However where this is not feasible it will be stored appropriately in proximity to its reuse location; • During the detailed design and construction stage, sections of track will be surveyed and micro-sited to optimise the distance from water bodies, minimise peat disturbance and peat slide hazard; • Ground investigation surveys will be undertaken to further understand the ground conditions for detailed design; • A suite of good practice procedures, methods and measures for activities such as fuel handling and storage, concrete batching, pollution prevention, etc. These will be implemented as part of a CEMP; • Measures and methods to be used when handling excavated materials, storage and reuse of peat. These will be implemented as part of a CEMP / Peat Management Plan (PMP);
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Primary, Secondary and Tertiary mitigation

The primary, secondary and tertiary mitigation measures presented below have been collated from **Technical Chapters 6 – 15 of Volume 1**

- A site-wide Sustainable Drainage System (SuDS), as outlined in the Drainage Strategy including swales, drainage ditches, attenuation basins and flow control structures to regulate runoff and maintain greenfield discharge rates;
- Measures to maintain water flow to GWDTEs, such as the discharge of water captured from excavations in close proximity and downgradient of the infrastructure;
- The construction compound will be constructed with an impermeable membrane and any surface water runoff along with any pollutants will be routed through an oil / water separator as part of good practice procedures;
- A Peat Landslide Hazard Risk Assessment (PLHRA) has been undertaken to inform layout decisions and appropriate mitigation;
- The best quality peatland has been avoided by design, and all excavated peat is therefore considered to be modified in accordance with habitat mapping. No unmodified peat will be excavated;
- A monitoring programme will be developed and implemented in conjunction with United Utilities for the public water supply reservoirs to understand the parameters of concern and to set up reporting requirements, a process for information transfer and an emergency response plan. A baseline water quality monitoring programme will be completed followed by monitoring during construction and site restoration / early post construction phases to ensure that no adverse effects occur as a result of the Project for Assessment;
- A monitoring programme will also be established for the private water supplies (PWS) identified in the PWS assessment, in consultation with the residents. This will involve baseline data collection prior to construction to ensure that all supplies are identified / understood and regular monitoring throughout the construction stage. This programme will allow any potential impacts on the PWS can be promptly identified and addressed;
- A suite of targeted mitigation measures will be implemented to protect GWDTEs identified as potentially hydrologically connected to the Project for Assessment. These measures have been developed in consideration of the Assessment Boundary's hydrological and geological setting, with emphasis on maintaining shallow groundwater flow pathways that support sensitive habitats. Mitigation will include micro-siting of infrastructure-particularly the substation to maximise the separation from GWDTE area (Polygon 281). Where excavations intercept groundwater, it will be discharged in a diffuse

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manner downslope and in close proximity to the excavation area to maintain natural groundwater gradients and prevent interruption of flow;

- Track infrastructure, including site access tracks, will be constructed with permeable cross drains and small culverts where necessary, to enhance infiltration and avoid disruption to groundwater recharge or surface water distribution. Drains parallel to tracks will be routed through frequent cross drains to avoid channelling or interception of subsurface flow;
- Where possible, following further detailed ground investigations and subsequent detailed infrastructure specification and design post-consent, micro-siting of infrastructure to further reduce the amount of peat being disturbed will be undertaken. The infrastructure design will also be reviewed to minimise the excavated footprint where possible; and
- Within the Assessment Boundary, there is an opportunity for the peat to be re-used within temporary infrastructure areas and translocated to support peatland restoration which will be implemented through the PMP. The peat balance for the Project for Assessment indicates that there are sufficient opportunities within the Assessment Boundary to enable reuse of peat to support peatland restoration and minimise the impacts of construction through infrastructure reinstatement. Other elements detailed in the Moorland Restoration and Management Plan will be progressed during the construction to help offset any construction effects.

Operation

- Implementation of Drainage Strategy to manage surface water runoff, maintain greenfield flow rates and support hydrological continuity across peatland areas;
- Drainage management such as cleaning out of culverts, drains and discharge zones;
- Ongoing peat restoration where further intervention is necessary or where any of the preliminary restoration areas are unsuccessful;
- Peat slide / geotechnical register;
- Water quality monitoring, if required;
- Operational pollution risks will be mitigated through routine inspection, use of spill kits, secondary containment for hazardous substances, and compliance with pollution prevention guidance (e.g. Guidance for Pollution Prevention);
- Long-term peatland restoration and management through the Moorland Restoration and Management Plan.

Technical topic / stage	Primary, Secondary and Tertiary mitigation The primary, secondary and tertiary mitigation measures presented below have been collated from Technical Chapters 6 – 15 of Volume 1
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Decommissioning	As set out for construction above (where relevant to the works).
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Climate Change

Construction	• Avoiding areas of peat greater than 1m in depth, where possible; • The use and upgrade of approximately 4,884m of existing track; • The construction of approximately 752m of floating track across areas of deep peat (>1m); • The implementation of an Outline Peat Management Plan that details the volumes of peat to be excavated; how and where the peat could be excavated, stored, translocated and managed; and defining how eroded or degraded peat would be restored and necessary management processes; and • The implementation of a Moorland Restoration and Management Plan to enhance existing habitats and providing a net gain in irreplaceable habitats whilst having wider benefits such as enhancing climate resilience.
Operation	n/a
Decommissioning	As set out for construction above.

Table 1.2: EIA Scoping Report

Mitigation measure	Description / details of measure
CEMP	A CEMP will be prepared, which will set out the environmental measures to manage and control environmental effects during construction / decommissioning, as appropriate. A CEMP should include measures in line with all relevant legislation, government and industry standards, codes of practice and best practice measures, inclusive of, but not limited to: • Construction (Design and Management) Regulations 2015; • Environmental Protection Act 1990; • Environmental Protection (Duty of Care) Regulations 1991; • The Waste (England and Wales) Regulations 2011; • The Confined Space Regulations. Specific measures to be included are outlined below: <u>Air quality and dust management</u> • Implementation of emissions in line with Institute of Air Quality Management's (IAQM) Guidance on the Assessment of Dust from Demolition and Construction including: – Undertaking daily on-site and off-site inspections where receptors (including roads) are nearby, to monitor dust; – Erecting solid screens or barriers around dusty activities or the working area boundary that are at least as high as any stockpiles on-site; – Ensuring all vehicles switch off their engines when stationary - no idling vehicles; and – Using enclosed chutes, conveyors and covered skips. • Construction plant emissions will be switched off when not in use and will meet emissions standards. <u>Artificial lighting</u> • Appropriate positioning and direction of lighting to avoid light spillage / glare to properties; • Use of accessories, such as hoods or shields to direct light to where it is required;

Mitigation measure	Description / details of measure
	• The use of sufficient lighting units for the task in hand to avoid the need for tall, wide beam lighting units; • Use of motion-sensor activated lighting, where practicable; • The reduction of fixed lighting outside core construction working hours; and • Any requirements for ongoing monitoring and liaison with stakeholders.
	<u>Utilities</u>
	• Existing utilities and services will be identified in liaison with the relevant operators; • The preparation of specific method statements and making workers aware of the location of utilities where works are undertaken in proximity to utilities; and • Adherence to relevant HSE guidance, including Avoiding danger from underground services.
	<u>Flood risk and water management</u>
	• Management of surface water in line with industry best practice and guidance, such as British Standard 8582:2013; • Procedures for operations in proximity to hollows / slopes are to be adopted to minimise flood risks; and • Checking the weather forecast and works to be postponed in time of severe rainfall events to mitigate potential risk of flooding to construction workers; • Installation of temporary drainage system (before permanent drainage strategy is installed); • Storage of all materials appropriately to avoid increasing flood risk off-site; • No storage site accommodation / cabins are to be stored / located in areas at risk of surface water flooding; and • Procedures for operations in proximity to watercourses are to be adopted to minimise flooding risks.
	<u>Contamination management</u>
	• Use of Personal Protective Equipment (PPE); • Preparation of method statements; • Environmental awareness training; and • Use of appropriate Respiratory Protective Equipment (RPE), where required.

Mitigation measure	Description / details of measure
	<u>Unexploded ordnance (UXO) management</u> - The potential risks of UXO will be communicated to all construction workers, provision of safety training by a competent UXO expert and safety monitoring. <u>Fire safety</u> - Works will be undertaken in accordance with Fire Prevention on Construction Sites: Joint Code of Practice and HSE's Fire safety in construction. <u>Site security</u> - Site security arrangements during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015; - Temporary fencing and hoarding will be erected around relevant working areas and compound area / temporary laydown area to prevent unauthorised entry; - Use of lighting; and - Appropriate management of the movement of vehicles plant, equipment and personnel. <u>Waste management</u> - Preparation of waste management plan to outline the aims, objectives and ongoing management responsibilities, including management practices, to be implemented and set targets for the reduction, diversion of landfill and reuse of waste; - Ordering of materials will be on an 'as needed' basis to prevent over supply; - Co-ordination with suppliers enabling them to take / buy back surplus stock; - Purchase of materials pre-cut to length to avoid excess scrap waste generated on-site; - Request that suppliers use least amount of packaging possible on materials to be delivered; - Ensuring correct storage and handling of goods to avoid unnecessary damage that would result in their disposal; - Use of reclaimed materials in the construction works;

Mitigation measure	Description / details of measure
	• Characterisation of materials both chemically and physically in line with relevant guidance, such as Waste Classification: Guidance on the classification and assessment of waste; and • Management of hazardous wastes in line with legal requirements (e.g., Control of Pollution (Special Wastes) Regulations 1980 and The Dangerous Substances (Conveyance by Road in Road Tankers and Tank Containers) Regulations 1981), ensuring appropriate storage, collection and disposal in line with sustainable management practices where possible. <u>Resource use</u> • The recycling and reuse of materials on-site. <u>Heat stress</u> • Provision of shaded refuge, potable water supplies and appropriate PPE will be provided to avoid health and safety risks associated with high summer temperatures.
Construction Phase Plan	The Plan will be prepared in accordance with the Construction (Design and Management) Regulations 2015. This will include health and safety measures to reduce any identified risks to construction workers from potential land contamination, ground gas and mine gas as well from general construction activities, with appropriate method statements and risk assessments to be prepared prior to the commencement of specific activities. All plant and equipment, such as cranes and other lifting equipment, will be maintained in line with the manufacturers recommendations and operated by suitably qualified personnel. Appropriate bases will be used for plant (e.g. hardstanding).
Peat slide management to human health receptors	The following measures will be implemented with respect to peat slide: • Peat storage only on areas of low / negligible peat slide risk; • Controls on peat storage heights; • Provision of adequate cut-off drainage and suitable outflows; and • Routine maintenance and inspection of peat storage areas.
Ground investigation(s)	Intrusive ground investigation works will be undertaken. Where relevant, in line with Land Contamination Risk Management (LCRM), quantitative risk assessments will be required as part of the intrusive ground investigation(s) which will involve comparing soil contaminant concentrations against Generic Assessment Criteria and assessing Source-Pathway-Receptor Linkages. Appropriate mitigation measures will be specified in line with the LCRM.

Mitigation measure	Description / details of measure
Material management	Grading certificates for all backfill material and confirmation of the source of all backfill materials provided prior to commencement of backfilling operations. All material brought on-Site and re-used will also be tested in accordance with relevant guidance / standards.
Earthworks / foundation design	Risks from construction over peat will be fully mitigated by appropriate ground investigation and foundation design targeting the underlying competent bedrock strata which have no hazard. All earthworks and foundation design will be in accordance with relevant industry guidance, including British Standard 6031:2009: Code of Practice for Earthwork and Building Regulations Approved Document A - Structure. Implementation of appropriate measures to address unstable ground / geotechnical hazards, including temporary works (shoring of excavations, the design of haul roads, piling and crane platforms, etc).
Turbine structural design	The design of the wind turbines will also be informed by detailed analysis to minimise any aeroelastic effects and appropriate measures will be implemented, such as ensuring that there is enough damping for the different modes and that there is no resonance. The wind turbines will be constructed to current engineering standards, including British Standard EN 61400 which relates to turbine structural components. Once completed and operational, there will be regular checks and inspections of the wind turbines.
Operational surface water drainage system	The new surface water drainage systems, which will attenuate / treat runoff. The proposed SuDS will incorporate adequate infrastructure to ensure safe management of storms with a return period of up to 1 in 100 years, plus an allowance for climate change. The drainage strategy will include filter drains to collect any runoff that will convey flow to an attenuation basin with a controlled discharge. The systems will include pollution prevention measures (e.g. interceptors).
Operational fire safety strategy	Stringent control measures for fire will be implemented where appropriate as part of the Project for Assessment. The wind turbines will be fitted with an active fire protection system, which includes but is not limited to detection (of flames, heat, gas, and smoke), alerting personnel and rescue services, and activating systems for fire suppression or extinguishing. All operational plant / infrastructure as part of the Proposed Scheme will be designed, installed and maintained in line with relevant legislation, standards and guidance, including Electrical Equipment (Safety) Regulations 2016, Electricity Safety, Quality and Continuity (Amendment) Regulations 2006 as well as Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations. The control measures for the prevention of fire will be

Mitigation measure	Description / details of measure
	in accordance with legislation, standards and guidance (such as the Equipment and Protective Systems for Use in Potentially Explosive Atmospheres Regulations 2016). There will also be dedicated management / supervision.
Operational waste management strategy	To set out all waste arisings (including materials that would be classified as hazardous waste) and how each waste stream will be managed, transported and disposed of, including compliance with relevant legislation, regulation or guidance for each waste arising (i.e. detailed responsible persons, necessary carriage certificates / duty of care notification or documentation needing to be implemented).
Risk management strategies	The risk management strategies that will be implemented include: • The turbines will have sensors on them to detect the buildup of ice and automatically prevent the turbines spinning when ice has developed. In addition, services crews will be trained regarding the potential for ice throw, ice risk conditions will be monitored during operation and public notices will be displayed at access points, alerting members of the public and staff of the possible risk of ice throw under certain weather conditions; • Above the maximum operational wind speed for which they are designed, the blades pitch out of the wind and the turbine stops operating. The maximum allowable windspeed (called 'Vref' or 'V50') is calculated during the suitability assessment. If the calculated V50 exceeds the turbine V50, a yaw power back up system can be deployed, essentially a battery pack to power the yaw motors to ensure the turbine is facing the right direction during a grid outage, a system which extends the V50 by a few m/s; and • The turbines will have a lightning protection system. The blade tip is made from aluminium and there are three further receptors near the end of the blade with a lightning cable running through the blade and into the hub / nacelle / tower / foundation. A lightning detection system can also be provided to measure the strength of a lightning strike and aid the detection of potential damage.
Operational chemical / substances management	Chemical storage facilities will be designed to the relevant regulations and standards, such as the Dangerous Substances and Explosive Atmospheres Regulations 2002 and associated HSE guidance. All handling, storage and disposal of chemicals / substances will also be undertaken in accordance with relevant regulations.

Mitigation measure	Description / details of measure
Operational health and safety management	All operational activities will also comply with all relevant health and safety legislation, such as The Work at Height Regulations 2005 and Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1999. In addition, only qualified staff with the appropriate level of training and experience will undertake specific tasks. There will be the appropriate maintenance of equipment and first aid and safety equipment will be available.
Operational external lighting strategy	The substation / control building will be equipped with passive infrared sensor-controlled security lighting.
Radar and telecommunications safeguarding strategy	CAP 764 and other international documents such as the Eurocontrol Guidelines for Assessing the Potential Impact of Wind Turbines on Surveillance Sensors provide guidance on how to carry out an assessment of the potential impact of wind turbines on aviation operations together with the typical options for mitigating any impacts. Such mitigation may include sensitive turbine layout and micro-siting, the procurement of new and improved radar equipment to provide additional surveillance data, ensuring the elevation of the blades is below the radar main beam or consideration of in-fill radar. For telecommunications, mitigation options include re-networking by the addition of an extra node on the link path or the replacement of a wireless link with a leased line between the link ends, the use of an alternative scanner, increasing link elevation (by raising the receivers / transmitters) or the replacement of the UHF link with a microwave link.

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