Intended for
Viking Energy Wind Farm LLP

Date
October 2022

Project Number
1620009158

VIKING ENERGY WIND FARM
PLANNING MONITORING OFFICER AUDIT REPORT 024: 19TH SEPTEMBER TO 23RD OCTOBER 2022

RAMBOLL

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024: 19TH SEPTEMBER TO 23RD OCTOBER 2022

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1. AUDIT DETAILS

1.1 Audit Details

Audit Number	PMO 024
Location	Kergord Mid Kame Ridge Main Construction Compound Nesting North Nesting
Weather Conditions	Dry, cold and partly cloudy (8°C).
Audit Date	19th October 2022
Audit Period	19th September to 23rd October 2022
Audit Owner	Ramboll UK Ltd

1.2 Distribution

Position	Action
Ramboll Project Director Planning Monitoring Officer	For information
SSE Renewables Development Manager	For information
SSE Renewables Consents Manager	For information
SSE Renewables Environmental Advisor	For information
RJ McLeod Design Management Engineer	For Information
Shetland Islands Council Planning Enforcement Officer	For information
Shetland Islands Council Natural Heritage Officer	For information

1.3 Terms of Reference

This audit has been completed with reference to the following key documents:

- Application under Section 36C of the Electricity Act 1989 to vary the consent granted under Section 36 of that Act on 4 April 2012 to construct and operate the Viking Wind Farm located in Shetland Islands Council Planning Authority Area and for a direction under Section 57 of the Town and Country Planning (Scotland) Act 1997 for planning permission to be deemed to be granted in respect of the proposed development (i.e. the 'Variation Application').

The Viking Wind Farm project will comprise the construction of 103 wind turbines with a turbine tip height of 155 m; development of a temporary construction compound; construction of associated access tracks; development of a substation; development of a convertor station; erection of permanent Met Masts; and the excavation of borrow pits.

The project was consented as detailed above, receiving Section 36C Consent and deemed planning permission on 24th May 2019.

Separate planning consents are in place for the following specific aspects of the development:

- Construction of the Kergord Access Track[1] (consented on 29th April 2019).
- Re-alignment of Sandwater Road[2] between the Burn of Weisdale and the junction with the A970 to facilitate construction access for the Viking Wind Farm (consented on 26th May 2020).
- Formation of temporary construction compounds at two locations; Sandwater (Main)[3], consented on 22nd June 2020; and North (South of Voe)[4] consented on 9th September 2020.

1.4 Role of the Planning Monitoring Officer

Condition No. 3 of the Variation Application states that:

"No development shall commence unless and until the Planning Authority has approved in writing the terms of appointment by the Company of an independent and suitably qualified environmental consultant to assist the Planning Authority in monitoring compliance with the terms of the deemed planning permission and conditions attached to this consent (a Planning Monitoring Officer ("PMO"). The terms of the appointment shall:

- Impose a duty to monitor compliance with the terms of the deemed planning permission and conditions attached to this consent;
- Require the PMO to submit a monthly report to the Planning Authority summarising works undertaken on site; and
- Require the PMO to report to the Planning Authority any incidences of non-compliance with the terms of the deemed planning permission and conditions attached to this consent at the earliest practical opportunity.

The PMO shall be appointed on the approved terms throughout the period from Commencement of Development to completion of post construction restoration works.

In order to discharge the above requirements, the PMO undertakes site-based audits at monthly intervals to monitor the compliance with the conditions of the consent. The primary documents used for compliance monitoring are the Construction Environmental Management Plan (CEMP); and the Pollution Prevention Plan (PPP). Additional documents will be referenced as required for specific detail.

The following traffic light system is used to indicate action status:

	Green – activities appear to be compliant with the CEMP, PPP and other applicable environmental management procedures and plans and there are no other issues.
	Amber – in general activities are compliant with the CEMP, PPP and other applicable environmental management procedures and plans but there are minor actions required.
	Red – activities may not be compliant with the CEMP, PPP and other applicable environmental management procedures and there are critical actions.

[1] Shetland Islands Council Planning Reference No: 2018/096/PFF
[2] Shetland Islands Council Planning Reference No: 2019/079/PPF
[3] Shetland Islands Council Planning Reference No: 2019/188/PPF
[4] Shetland Islands Council Planning Reference No: 2019/210/PPF

1.5 General Limitations and Reliance

This report has been prepared by Ramboll UK Limited ("Ramboll") exclusively for the intended use by Viking Energy Wind Farm LLP (the "client"). No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended or any other services provided by Ramboll.

In preparation of the report and performance of any other services, Ramboll has relied upon site observations, publicly available information, information provided by the client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are intended to form a record for the purpose of documenting compliance with Condition No. 3 of the Variation Application. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

2. INTRODUCTION

2.1 Objectives of Audit

The purpose of the PMO Audits is to monitor the provision of appropriate environmental management at active work sites of the project, via desk-based review of relevant documentation and site visits to be undertaken on a monthly basis to ensure compliance with the conditions of the planning consent and associated environmental management plans.

2.2 Scope of Audit

The scope of the audit was as follows:

- Liaison with SIC regarding public concerns or complaints received during the audit period (if any).
- Review of documents provided by the Client and Principal Contractor prior to and following the audit visit. Specific references are included in the relevant sections of the report.
- A site visit attended by the PMO, SSE Renewables, RJM Environmental Clerk of Works and SIC Planning Enforcement Officer undertaken on 19th of October 2022 which included the following locations:
  - Kergord;
  - Mid Kame Ridge;
  - Main Compound;
  - Nesting; and
  - North Nesting.
- Discussions were held with the Geotechnical Clerk of Works (GCoW), Environmental Clerk of Works (ECoW) and Archaeological Clerk of Works (ACoW).

A selection of photographs taken during the audit are included in Appendix 1.

2.3 Site Personnel

The following site personnel were interviewed as part of this audit:

Company	Position
SSE Renewables	Site Environmental Manager
RJ McLeod	Design Engineer
Tony Gee and Partners	Geotechnical Clerk of Works
MBEC	Environmental Clerk of Works
Headland Archaeology	Archaeological Clerk of Works

3. SITE SETTING, RECORDS AND OBSERVATIONS

Observations made during the audit are described in this section. Corresponding photographs are included in Appendix 1, alongside a plan of the site indicating the location of each photograph.

3.1 Kergord

3.1.1 Site Setting and Activities

Access to the Kergord Arrays is taken via the Kergord Access Track (KAT), which was accessed from the Sandwater track along the southern boundary of the central area of the development.

Activities in this area during the audit included progression of cable trenches, peat restoration areas, backfilling of bases and rock extraction at borrow pits.

3.1.2 Observations

All construction of turbine bases has been completed in this area.

It was noted by the GCoW, prior to the site visit, that there had been a peat movement adjacent to the base at K70. This was observed during the site visit (Photo 1). The peat was part of reinstatement works but had moved down the hill by around 30 m following a period of heavy rain. The peat moved into an adjacent area of restoration which had yet to be reprofiled. The Design Engineer noted that this peat area was due for restoration, and during that process structural bunds will be installed to retain the peat, and the peat shall be profiled to tie in with the surrounding landscape. There are no significant environmental impacts as a result of the movement.

The Kergord Access Track crosses the Droswell Burn to the north of the B9075 There have been historical incidents of silty water entering the Burn, and although below the levels of sediment discharge permitted at the site, works have been undertaken to prevent further incidences. The road has been capped, and an impermeable membrane has been put in place alongside the road to prevent water flowing directly from the road foundations to the Burn (Photo 2). In addition, concrete lined surface water drains have been put in place either side of the roadway, and these drain to the vegetation at the side of the Burn (Photo 3). Monitoring will continue in this area to track whether further mitigation is required.

3.2 Mid Kame Ridge

3.2.1 Site Setting and Activities

The Mid Kame Ridge (MKR) is accessed from the Sandwater track and stretches northwards to Hamarigrind Scord.

Cable trench excavation along the cross-country cable route is underway on the western side of the ridge.

3.2.2 Observations

Backfilling of cable trenches has been undertaken and the outstanding backfill areas are on hold following final testing of the cables used in the cable trenches (Photo 4).

The excavation of the cross-country cable route from K88 to the substation, including the crossing of the Burn of Weisdale, is ongoing. Currently, the temporary access track has been constructed and temporary drainage is in place. The GCoW and ECoW noted that recent heavy rainfall events had led to an incident of silty water entering the Burn of Weisdale. The sediment

levels were below the threshold permitted by the site; however, SEPA were notified about the incident as a courtesy. The incident was reported through the SSE Renewables safety and environmental reporting process in order to assess impact and ensure remedial measures are implemented. The Design Engineer stated that since this incident, additional mitigation has been put in place to prevent further occurrences. Mitigation includes additional clean water culverts, capping of the access road, additional cut-off drains installed, stone drain installation, and the use of silt fences and pumps.

In line with the approved cross country cabling route works, the Burn of Weisdale has been diverted to allow for the laying of ducts beneath the Burn (Photo 5). This crossing will connect the cables Mid Kame Ridge, Nesting and North Nesting turbines to the substation. The diversion has temporarily changed the course of the Burn to the east and directed flow through a stone lined gully and a covered culvert (Photo 6). The material from the base of the Burn was excavated and segregated and will be replaced at the base of the Burn to ensure like-for-like reinstatement.

Peat storage at the north of Mid Kame Ridge has been paused (Photo 7) and peat is being temporarily stored in a location to the south of Mid Kame Ridge (Photo 8) since the route is more direct to the work area. Bunds have been put in place in the temporary storage to the south of the ridge to ensure the storage of material on the slope is managed.

3.3 North Compound

3.3.1 Site Setting and Activities

The North Compound is located towards the northern limit of the site on the eastern side of the A970. Concrete batching plant 1 and 2 are in place at the North Compound.

3.3.2 Observations

The North Compound was not accessed during this PMO visit due to a concrete pour utilising the entire compound area.

3.4 North Nesting

3.4.1 Site Setting and Activities

The northern Nesting turbine arrays are located towards the northern limit of the site on the eastern side of the A970. Activities in this area during the audit included progression of cable trench, peat restoration areas, rock extraction at borrow pit, and the backfill of turbine bases.

3.4.2 Observations

All concrete turbine bases have been completed.

Phase 2 of peat restoration is ongoing in P21 (Photo 9). Specialist subcontractors are being used to tie in the area with the existing peat landscape. Ponds and drainage routes are being created (Photo 10).

Fencing is being installed at the boundaries of the peat restoration areas. Fencing is completed in areas P7, P11 and P33 (Photo 11). Fencing is in the process of being erected in P14.

The GCoW mentioned prior to the site visit that there had been a minor peat movement on a cutting on track Spur 52, on the way to turbine base N94 (Photo 12). The Design Engineer confirmed that the area would be reprofiled, and additional drainage would be put in place following the movement. There are no significant environmental impacts as a result of the movement.

More peat has been stored in NBP01 since the last PMO visit (Photo 13). The Design Engineer confirmed that this is temporary storage and will be re-used to backfill cable trenches.

The laying of cable ducts under the A970 has been completed to the north of the North Compound. There were temporary roadworks in place whilst the road was excavated and the ducts laid. The road has since been reinstated. An additional road crossing adjacent to the Sandwater Access Track entrance is due to be undertaken before the next PMO audit.

3.5 Main Compound

3.5.1 Site Setting and Activities

The Main Compound is located at the southern extent of the development site, accessed from the A970. The lower level comprises car parking and site offices and welfare facilities. The upper level is in use for material and equipment laydown.

3.5.2 Observations

The car parking, site offices and welfare facilities are functioning well. All materials (including materials on the upper level) are stored according to regulations. No evidence of leaks or staining was observed in the vicinity of the store. All waste skips are labelled.

3.6 Nesting

3.6.1 Site Setting and Activities

The Nesting arrays are accessed from the A970. Activities in this area during the audit included progression of cable trench excavations, rock extraction at borrow pit and formation of turbine base foundations.

3.6.2 Observations

Only eight bases have yet to be poured and there are two bases that require steel fixing prior to the concrete pour. These bases are in Arrays O and L. Bases are being backfilled following geotechnical testing.

The laying of the cross-country cable route from Nesting to the A970 has commenced and work is continuing.

Hydroseeding of the peat along the embankments has been undertaken and early growth is present along the cuttings adjacent to the access tracks (Photo 14).

It was noted by the ECoW during the previous PMO visit that silty water had entered the catchment which enters the Burn of Flamister; however the volume of sediment had not exceeded the permitted levels. It was noted that the silty water reached the most upstream part of the Burn, however the flow of the sediment through the vegetation and silt fences ensured that the silty water was not sustained further downstream. Mitigation was put in place and viewed during the previous PMO audit. During this PMO audit, the mitigation remains in place and the Design Engineer confirmed that no further silty water incidents had been noted. Ongoing monitoring of the area is being undertaken (Photo 15).

3.7 Substation

3.7.1 Site Setting and Activities

The Substation occupies the northern third of the HVDC Converter Station Platform located in the Kergord Valley, between Mid Kame Ridge and Kergord. Access to the Substation is taken via the

KAT. Only the substation area is subject to the PMO audit. Activities in this area included construction of building frame, cladding and pre-cast equipment foundations.

3.7.2 Observations

The substation was not visited during this PMO audit; however, the works were observed from the Burn of Weisdale and the Kergord Access Track.

Construction of substation cable under the diverted Northern Watercourse is ongoing (Photo 16). The Northern Watercourse is a manmade feature, designed to divert upgradient groundwater away from the Convertor Station platform. Once the cable laying is completed, the Northern Watercourse will be restored to its original location, on top of the substation cable. Excavation of the cable trenches and the laying of cables from the substation to the Burn of Weisdale is complete and awaiting testing (Photo 17). Further excavation to a cable jointing pit is required, and this is where the cables from the substation will meet the cables from the turbine cables from Nesting, North Nesting and Mid Kame Ridge.

3.8 Communication with Clerks of Work

3.8.1 GCoW

Condition 39 of the planning consent requires the appointment of a Geotechnical Clerk of Works (GCoW) to minimise the risk of peat failure arising from the development. A discussion was held between the PMO and GCoW before and after the site visit, on the 14th of October 2022.

The GCoW described the ongoing monitoring work across the site. This has included monitoring of the general construction works including cable routes, monitoring peat restoration areas and providing advice on peat handling.

The GCoW mentioned some peat movements and required clarification on the plans for the reinstatement of these areas. The Design Engineer clarified that the areas would be reinstated and drainage would be modified to divert surface water flow. The movements did not have any significant environmental impacts. These areas are mentioned in Sections 3.1.2 and 3.4.2 above.

3.8.2 ECoW

Condition 19 of the planning consent requires the appointment of an Ecological Clerk of Works to ensure protection of the natural heritage of the area. A discussion was held between the PMO and ECoW before the site visit, on the 13th October 2022.

The ECoW continues to work with the Principal Contractor to identify and implement mitigation measures throughout different stages of construction. The measures aim to ensure the project maintains compliance with relevant licences. The ECoW is monitoring the progress of these measures on an ongoing basis.

The ECoW is having ongoing communication with the Principal Contractor including details of open cable trenches. Discussions with the contractor are with a view to minimising the risks associated the wetter winter season.

It was noted by the ECoW during discussions prior to the PMO visit that silty water events had occurred in the Burn of Weisdale, but that were below the permitted threshold as noted in Section 3.2.2. The Design Engineer confirmed that additional mitigation had been put in place following the silty water event.

3.8.3 ACoW

Condition 29 of the planning consent requires the appointment of an Archaeological Clerk of Works to ensure archaeological features are protected and recorded during the development. The ACoW communicated the ongoing works to the PMO on the 13th October 2022.

The ACoW described the ongoing and completed monitoring works across the site. Ongoing works mostly related to cabling work.

The ACoW has continued with daily checks across the project site.

3.9 Communication with SSE Renewables Environmental Manager

The SSE Renewables Environmental Manager notified the PMO that there have been some exceedances of Environmental Quality Standards of some trace metals in water quality sampling in the Burn of Lunklet. Investigation into the source of the trace metals is being undertaken and SEPA have been notified of the exceedances. A remediation plan has been issued to SEPA for comment.

3.10 Communication with SIC

SIC received an email asking about construction of access tracks near a former quarry (Millstone Quarry). This was discussed in PMO023 report; however, since the report was published, positive identification of the quarry has been undertaken by the archaeologists.

The Millstone Quarry was identified in the Western Array (Photo 18), within the windfarm boundary but approximately 100 m from any working areas. The quarry has now been fenced off and the ACoW has added the Millstone Quarry to the Heritage Environment Record (HER). During the walkover to identify the quarry, a Cairn was also noted. The Cairn will also be added to the HER.

3.11 Scope of next audit

The scope of the next PMO audit will be dependent on the specific activities undertaken at the development site in the preceding days and weeks. This is likely to include:

- Update on progress of construction works at Kergord, Mid Kame Ridge, Sandwater Road, North Compound and North Nesting, Main Compound and Nesting.
- Consideration of any comments received by the SIC or the Developer in relation to the works, including visits to view specific areas of concern.
- Update on the cable track areas.
- Update on the construction of the VEWF Substation and undertake PMO audit of the substation area.
- Updates from the ACoW, ECoW and GCoW teams.

4. AUDIT FINDINGS AND REQUIRED ACTIONS

Issue	Auditor Comments	Required Action	Action Owner	Status
Materials Storage and Handling (e.g. oil/fuel storage and peat/mineral soil storage and handling).	Peat restoration areas are managed through the project Habitat Management Plan and by a dedicated HMPO which balances the geotechnical and ecological objectives of the restoration. Potential risks relating to storage of peat are recorded on the PRRs and communicated to the Principal Contractor to allow mitigation / monitoring to be undertaken. The PMO will request evidence in future audits to confirm compliance with requirements for GCoW and ECoW approval of proposed peat restoration areas. The project COSHH stores are typically used for the storage of maintenance oils and greases. The stores were all locked and the assessment for each substance was readily available in each store. The stores were bunded and no leaks or staining was observed around the stores.	No action required	Principal Contractor	Green
Natural and Built Environment (e.g. ecology, biosecurity, protected sites, archaeology and site restoration).	Ecological constraints identifed by the ECoW team are communicated to the Principal Contractor and Developer to allow mitigation measures to be implemented and rescheduling of preparatory and construction work as required. These are also marked out by poles on the site and included on ecological sensitive plans issued to the Principal Contractor. Watching briefs have been undertaken by the ACoW where potential archaeolgical constraints are identifed. Where there are known archaelogical features the track is micro-sited to avoid the feature.	No action required.	N/A	Green

Issue	Auditor Comments	Required Action	Action Owner	Status
Pollution Prevention and Response (e.g. use of spill kits, silt control, cement/concrete, water resources).	The project has received authorisation to abstract water from eight locations from SEPA. The authorisation allows the water to be used for dust suppression. The PMO has reviewed documents confirming that the appropriate registration is in place with SEPA under The Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended. During the audit the PMO observed spill kits to be well stocked and readily available in areas where liquids are stored. The project continues to improve the pollution prevention measures with additional measures installed in high risk areas. PMO observed effective measures in place including but not limited to cut off drains, settlement ponds, silt controls, track side ditches and water pump reactor.	No action required.	N/A	Green
Pollution Prevention and Response (e.g. use of spill kits, silt control, cement/concrete, water resources).	Silty water has been observed being discharged for a short time into watercourses during period of heavy rainfall. This was not a long and uncontrolled continuous discharge. The levels of sediment in the water have not exceeded the permitted levels. Further mitigation has been put in place in the areas of concern.	No action required. Field testing for suspended solids determines whether further action and/or external reporting is required.	N/A	Green
Pollution Prevention and Response (e.g. use of spill kits, silt control, cement/concrete, water resources).	The SSE Renewables Environmental Manager notified the PMO that there have been some exceedances of Environmental Quality Standards of some trace metals in water quality sampling in the Burn of Lunklet.	Investigation into the source of the trace metals is being undertaken and SEPA have been notified of the exceedances. A remediation plan has been issued to SEPA for comment.	Principal Contractor	Amber
Resources, Waste and Transport.	The project manages wastes through a Site Waste Management Plan, the plan identifies the contractors transferring the waste and the	No action required.	N/A	Green

Issue	Auditor Comments	Required Action	Action Owner	Status
	disposal sites. Documents are retained in line with regulatory requirements.			
Pre-Planning Works (e.g. site set-up and general management, access tracks, community liaison).	Evidence of pre-planning works observed and reported during the audit included archaeological watching brief, community liaison. Potential constraints are identified and suitable mitigation measures implemented to prevent negative impacts.	No action required.	N/A	Green

APPENDIX 1
SITE LOCATION PLAN, PEAT RESTORATION PLAN AND PHOTOLOG

Photo 1. Peat movement at K70

Photo 2. Surface water drainage at the Droswell Burn

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 3. Surface water drainage at the Droswell Burn

Photo 4. Cable trenches awaiting backfilling on Mid Kame Ridge

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 5. Burn of Weisdale Diversion

Photo 6. Stone lined gully and covered culvert in the Burn of Weisdale diversion

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 7. Peat storage area at the north of Mid Kame Ridge

Photo 8. New Peat Storage area at the south of Mid Kame Ridge

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 9. Peat restoration area P21

Photo 10. Peat restoration area P21

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 11. Fencing installed at P11 peat restoration area

Photo 12. Peat movement in cutting in Spur 52

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 13. Peat storage in NBP01

Photo 14. Hydroseeding in Nesting

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 15. Silt fencing at Burn of Flamister

Photo 16. Laying of cable from Burn of Weisdale to substation

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Photo 17. Laying of cable from Burn of Weisdale to substation

Photo 18. Millstone Quarry in Western Array

Title: Photographic Log	**Client:** Viking Energy Wind Farm
Site: Viking Energy Wind Farm	**Date:** 19th October 2022

Title:	Photographic Log	**Client:**	Viking Energy Wind Farm
Site:	Viking Energy Wind Farm	**Date:**	19th October 2022