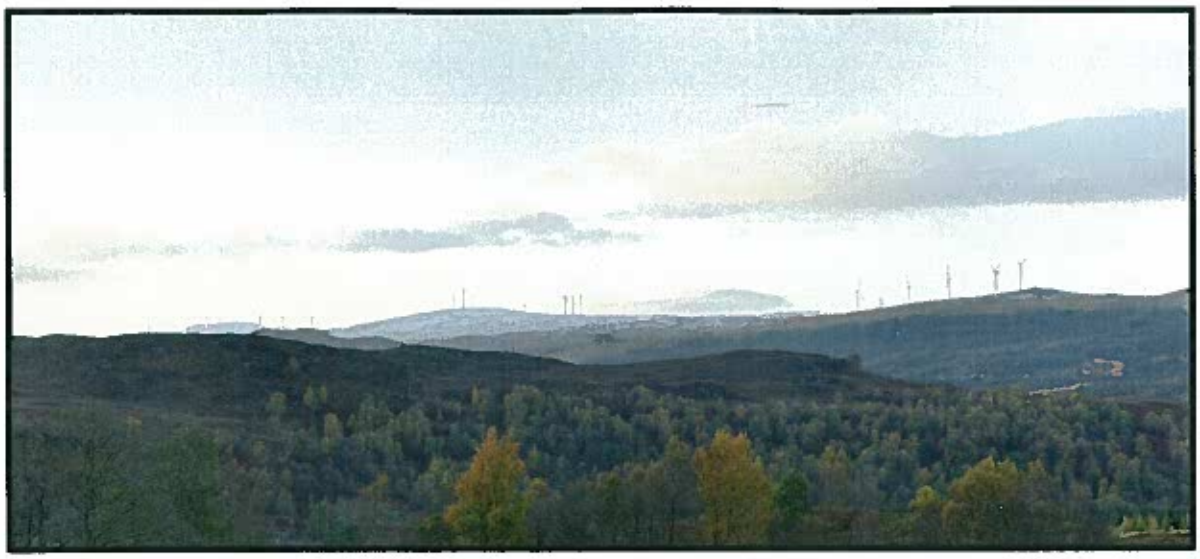

Millennium Wind Farm
Section 36 Extension

Volume 1 - Written Text

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coast
energy

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On behalf of

MILLENNIUM WIND FARM
SECTION 36 EXTENSION

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MILLENNIUM WIND FARM
SECTION 36 EXTENSION

Chapter One

Introduction

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CHAPTER ONE: INTRODUCTION

1.1 THE APPLICATION

1.1.1 This Environmental Statement (ES) supports an application to The Scottish Ministers, by West Coast Energy Ltd (WCE), for consent under Section 36 of the Electricity Act 1989 to extend the permitted Millennium Wind Farm on the Achlain and Aberchalder Estates, south of Glenmoriston in the Scottish Highlands. The land on which the development will be situated is located to the south of the permitted Millennium Wind Farm comprising sixteen turbines and the four turbine first extension, approximately 7km to the north west of Invergarry. The site centre grid reference is 227763, 806929. Figure 1 of Volume 3 provides details of the site location.

1.1.2 The Millennium Wind Farm Section 36 Extension application seeks consent for the installation of 6 wind turbine generators and approximately 2.4km of associated access track. The maximum base to blade tip height of the turbines would be 125m (410ft) this being when the blades reach their highest point. Ancillary development will include the installation of an underground electricity cable network, and hardstandings at each turbine location. It is proposed to utilise the substation and temporary compound area associated with the permitted Millennium scheme, and first extension. Figure 3 of Volume 3 provides details of the proposed development.

1.2 THE APPLICANT

1.2.1 West Coast Energy Limited with offices in Mold North Wales, and Edinburgh, was formed in 1996 and has been involved in developing a number of wind farms around the UK. West Coast Energy Limited will act as agent to manage the application process for Millennium Wind Energy Limited (MWEL), the long term owner / operator of the site. WCE has previously been responsible for managing the planning process for the Millennium Wind Farm including the first extension.

1.3 THE ENVIRONMENTAL STATEMENT

1.3.1 EC Directive 85/337/EEC (as amended by EC Directive no 97/11/EC) on the "assessment of the effects of certain public and private projects on the environment" defined a process for the provision of environmental information to determine the likely environmental effects of applications for consent to construct, extend or operate a power station or install or keep installed overhead electricity lines under Section 36 and 37 of the Electricity Act 1989. The Directives have been implemented under Scottish law by The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000, which came into force on 5th October 2000.

1.3.2 Under the Regulations, the proposed development is classed as a "Schedule 2 Development" and the view has been taken that the development should be subject to formal environmental assessment. An Environmental Statement (ES) has therefore been prepared to accompany the application for Section 36 consent.

1.3.3 The purpose of the Environmental Statement (ES) is to:

- Explain the need for the proposals and describe the physical characteristics, scale and design of the wind farm;
- Examine the existing environmental character of the application site and the area likely to be affected by the wind farm;
- Predict the possible environmental impacts of the wind farm;
- Describe measures which would be taken to avoid, offset or reduce adverse environmental impacts; and,
- Provide the public, the planning authority and other consultees with information on the proposals, which would assist The Highland Council in the determination of the wind farm application.

1.4 CONSULTATION

1.4.1 A formal opinion on the scope of the ES, for the now permitted Millennium scheme, was sought in 2003 from the Scottish Executive and The Highland Council (THC). Views were sought on a much larger area than that which was subsequently submitted and permitted by The Highland Council under the Town and Country Planning (Scotland) Act 1997. The responses to that request followed consultation with statutory and non-statutory consultees and defined the aspects of the development they required to be covered in the original ES. The same guidance was used for the first extension, submitted in March 2007. For the Section 36 Extension a formal scoping request has been submitted to the Scottish Government. The response dated 28th April 2008, provided at Appendix 1.1, details all the elements which need to be covered for the Section 36 submission. Due regard has been given to these requirements, which have been incorporated in the ES for this second extension to the Millennium Wind Farm. Additional dialogue has been held with THC and Scottish Natural Heritage to determine the scope of the landscape and visual impact assessment with respect to existing and proposed wind farms and other permitted and proposed developments such as the Glendoe hydro-electric project and the Beauly Denny overhead line upgrade.

1.4.2 A number of independent consultants were engaged to carry out studies and provide advice where appropriate. A list of the main consultants is provided below.

1.5 SITE DESIGN PROCESS

1.5.1 The Environmental Assessment has been used as part of the iterative process of planning and developing the wind farm proposal. Changes were made as a result of advice provided by the consultants in order to minimise the impact of the project on the environment. Evolution of the site design is further discussed in Chapter Two.

1.6 THE SIGNIFICANT EFFECTS APPROACH

1.6.1 The Environmental Impact Assessment (Scotland) Regulations 1999 enable local authorities to require the statutory environmental assessment of projects which would be likely to have significant effects on the environment by virtue of factors such as nature, size or location. Schedule 4 to the Regulations specifies the information to be contained in an Environmental Statement, including a description of likely significant effects on the environment in the vicinity of the development.

1.6.2 The Environmental Statement is intended to provide the Local Planning Authority and the Scottish Ministers with the information it requires in order to undertake an Environmental Impact Assessment of the proposed development.

1.6.3 An enduring difficulty with the process of environmental assessment is the achievement of a consistent definition of a degree of likely effects of a proposal on particular interests, particularly in defining whether or not such effects are significant.

1.6.4 Predicting impact significance is partly objective and partly subjective. It relies on the professional judgement of those who place varying weight on the many factors involved. The Environmental Statement therefore sets out the basis of these judgements so that the weight attached to the different factors and the rationale of the assessment can be understood.

1.7 STRUCTURE OF THE DOCUMENTS

1.7.1 There are 3 volumes of documentation and a Non Technical Summary submitted as part of the Environmental Impact Assessment for the Millennium Wind Farm Section 36 Extension as follows:-

Volume 1 contains the Environmental Statement (written text), including the reports on the surveys and assessments, which have been undertaken by internal specialist staff and external independent consultants. The structure of Volume 1 is as follows:

- Chapter 1 Introduction
- Chapter 2 Site Selection and Project Design
- Chapter 3 Needs and Benefits
- Chapter 4 Project Description
- Chapter 5 Planning Policy
- Chapter 6 Landscape and Visual Assessment
- Chapter 7 Ecology – Habitats – Flora and Fauna
- Chapter 8 Ornithological Assessment
- Chapter 9 Geology/ Hydrology/ Hydrogeology/Peat Slide Assessment
- Chapter 10 Noise Assessment
- Chapter 11 Cultural Heritage

- Chapter 12 Electromagnetic Interference and Safety
- Chapter 13 Human Environment and Land Use
- Chapter 14 Conclusions

Volume 2 contains the Appendices attached to the Environmental Impact Assessment within Volume 1.

Volume 3 is an A3 Volume containing the maps and figures that support the assessments presented in Volume 1.

A Non-Technical Summary

1.7.2 Copies of the application documentation can be purchased in paper format for £150.00 or CD format for £20.00, the Non-Technical Summary is available free of charge, separately on request. Contact: Simon Green, West Coast Energy Ltd, The Long Barn, Waen Farm, Nercwys Road, Mold Flintshire CH7 4EW. (Tel: 01352 757604, e-mail info@westcoastenergy.co.uk)

1.8 LIST OF CONSULTANTS

1.8.1 In the preparation of this Environmental Statement, the following consultants have been commissioned to provide specialist advice and to undertake the individual assessments of the proposed development, which are reported on in this ES.

Landscape and Visual Assessment – Enviros Consulting Ltd

Ecology – Atmos Consulting Ltd

Ornithology – Highland Ornithology and Atmos Consulting Ltd

Noise – Enviros Consulting Ltd

Cultural Heritage – Headland Archaeology

Hydrological Assessment – Atmos Consulting Ltd

Peat Slide Risk Assessment – SLR Consulting Ltd

Project Management, Figures & Visuals, Planning Policy – West Coast Energy Ltd

REFERENCES

BWEA, 1994, Best Practice Guidelines for Wind Energy Development, BWEA, ISBN 1870064216.

EWEA, European Best Practice Guidelines for Wind Energy Development, http://www.ewea.org/BPG.pdf

The Environmental Impact Assessment (Scotland), Regulations 1999 Circular15/1999, Scottish Executive.

A Handbook on Environmental Impact Assessment "Guidance for Competent Authorities, Consultees and others involved in the Environmental Impact Assessment "Process in Scotland", January 2002 – Scottish Natural Heritage.

MILLENNIUM WIND FARM
SECTION 36 EXTENSION

Chapter Two

Site Selection & Project Design

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CHAPTER TWO: SITE SELECTION & PROJECT DESIGN

2.1 INTRODUCTION

2.1.1 The selection of an appropriate site for a wind farm is a complex and lengthy process, which normally involves the examination and balancing of a number of technical, environmental and planning issues. Considerations in selecting the Millennium site are described below.

2.2 SITE SELECTION PROCESS

2.2.1 The selection process to identify the location for a wind farm development involves the use of a sieving exercise to exclude areas that are unsuitable for a range of environmental and technical reasons. Appropriate sites are then identified for further environmental assessment.

2.2.2 The process at Millennium started with a review of documentary evidence including the NOABL database[1] to identify areas with suitable long term annual wind speeds. Areas with suitable wind speeds were then compared with recognised national landscape designations. Land within National Scenic Areas and Areas of Great Landscape Value is generally excluded from further consideration. The proximity of existing wind farms can also be an important consideration.

2.2.3 Other environment and planning designations were also considered as part of the sieving exercise such as Ramsar sites (internationally important wetlands), candidate Special Areas of Conservation, Special Protection Areas and National Nature Reserves which would not normally be appropriate for wind farm development. However with regard to Sites of Special Scientific Interest (SSSI's), where it can be shown that the reasons for a site designation will not be compromised by a wind energy development proposal, it is not unacceptable to consider such areas within the site selection process.

2.2.4 There are also a number of technical constraints posed by civil and military aviation interests and consultations with the Ministry of Defence and the Civil Aviation Authority will broadly indicate those areas which are safeguarded by UK regulations and therefore represent areas of potential constraint for wind farm development. In addition, consideration must also be given to the existing radio and microwave transmission system.

2.2.5 Connection to the electricity distribution system is a major consideration when siting wind energy developments. Where possible, connections are made into the existing network, but there must be suitable capacity and stability on the network to accommodate the proposed generation capacity.

[1] The NOABL database is generated by an air flow model that estimates the effect of topography on wind speed. The model averages wind energy potential for each square kilometre of land and provides an indication of gross theoretical wind resource interpreted to 45 metres above ground level.

2.2.6 Other issues of prime importance are the proximity of a potential site to residential properties, suitable access, land availability and landowner agreement. These factors were an important consideration with regard to the Millennium Wind Farm Section 36 Extension site.

2.3 BACKGROUND TO THE SECOND EXTENSION APPLICATION

2.3.1 The Millennium site was first identified by the Renewable Development Company (RDC) in late 2002 as it satisfied a number of basic criteria including wind speed and a potential grid connection.

2.3.2 Further assessment of the site involved planning policy background, landscape and visual effects, noise, ecology, highways and rights of way, archaeology, electromagnetic interference, grid connection and wind speed analysis issues.

2.3.3 From the initial investigations, it was concluded that the site provided a good opportunity for a wind farm development given its predicted wind speed, availability of a suitable access, scope for development and proximity to the electricity network. At this stage it was envisaged that the site, which was in the ownership of two estates, namely the Achlain and Aberchalder Estates (as indicated on Figure 2), was, subject to further environmental investigations, capable of providing an installed generation capacity of around 60 Megawatts.

2.3.4 Various layout configurations were considered for the original Millennium scheme. A number of turbines, four in total, were dropped at a late stage in the planning process due to perceived sensitivities of views from Fort Augustus and Dalchreichart. The first extension, submitted in March 2007 essentially relocated these four turbine without giving any additional visibility from Dalchreichart or Fort Augustus. The second extension has the same design objectives with most of the turbines located at a lower elevation to those already permitted.

2.4 SELECTION OF THE MILLENNIUM SECTION 36 EXTENSION SITE

2.4.1 From the above, it can be seen that the Millennium Section 36 Extension site is the product of the generic site selection process as undertaken by West Coast Energy Ltd.

2.4.2 Viewed as a whole, the site appears suitable for a wind farm development for the following reasons:

(i) Permission was granted for a sixteen turbine scheme in June 2006 and for the four turbine extension in January 2008.

(ii) The site is not subject to any national designations for landscape or ecological reasons and there are no cited archaeological features contained within the proposed development site.

(iii) On site wind resource analysis has confirmed the suitability of the site for a commercial wind farm.

(iv) A 132kV grid network exists in close proximity of the site with current capacity (i.e. not dependent on the Beauly Denny upgrade).

(v) A sub station built as part of the Millennium permission will have sufficient capacity for the proposed extension turbines.

(vi) Detailed environmental assessment studies have not identified any overriding constraints which cannot be dealt with by appropriate mitigation.

2.4.3 These issues are examined in more detail below.

2.5 ENVIRONMENTAL ISSUES

National Designations

2.5.1 The Millennium Wind Farm site, including both extensions, is not subject to any national landscape designations. The nearest landscape areas of national importance are National Scenic Areas located at Glen Affric, Kintail and Knoydart, all of which are a minimum distance of 15km from the Millennium Section 36 Extension proposal. Glen Affric lies approximately 15km to the north-west, Kintail 30km to the west north west and Knoydart 38km to the west.

2.5.2 There are no Special Protection Areas (SPA's), Special Areas of Conservation (SAC's) or Sites of Special Scientific Interest (SSSI's) within the application area or immediate environs although the West Invernesshire Lochs SPA (including Loch Loyne and Loch Garry) have been recently designated and lie within 3.6km of the closest turbine.

2.5.3 There are no Scheduled Ancient Monuments (SAM's) and areas of archaeological interest contained within the application area. There are no Listed Buildings either within the proposed site, or close to the application boundary.

Local Designations

2.5.4 The extension to the wind farm site is not affected by any local landscape designation such as Area of Great Landscape Value classification (AGLV).

Local Environmental Effects

2.5.5 The potential impact of a wind farm at Millennium on the landscape, ecology, archaeology and telecommunications of the surrounding area, and on the local community and users of the area, were all considered at the site selection stage. This was progressed through desk studies and preliminary consultations.

2.5.6 These consultations identified issues that would need to be assessed in the context of the preparation of an Environmental Statement. They did not identify any constraints, which might represent reasons for rejecting the site at this stage.

2.5.7 These issues have subsequently been assessed within an iterative process of environmental assessment and project design. The findings of the various assessments are presented in this Environmental Statement.

The concurrent process of project design is discussed below in Section 2.7.

2.6 TECHNICAL CONSIDERATIONS

Wind Speed Assessment

2.6.1 The electrical power output of a wind turbine, is determined by the power of the wind. The power available from the wind is proportional to the cube of the wind speed, so that if the wind speed is doubled, the power available is multiplied by eight.

2.6.2 In order to harness this power, wind turbines need to be situated in areas with high, annual mean wind speeds. In the UK, these are generally found on the west and north of the country. Elevated areas with smooth slopes are most preferable, where wind speeds are high but turbulence is low. This maximises power output and also the life of the turbines.

2.6.3 The Millennium area is elevated with a relatively smooth topography and reasonably open exposure to the prevailing south westerly winds. Monitoring masts erected as part of the Millennium site assessment have confirmed that the area has a good wind resource.

Development Area

2.6.4 Any commercial wind development must be able to justify the fixed costs of planning, assessment, design, grid connection, financing, access etc. In view of these constraints relatively few suitable sites are readily available. A small extension to the permitted Millennium scheme makes good economic sense since the access point and infrastructure including internal haulage roads and grid connection has already been established. The extension, if permitted, will require the construction of only around 2.4km of new roads, extracting small amounts of stone from the permitted on-site borrow pit (Borrow Pit B). In any event once constructed, the infrastructure associated with the extension turbines would occupy a small percentage of the total site area, which is generally described as rough grazed moorland.

Site Access

2.6.5 The proposed extension will use the existing access point from the A887. The Kyle of Lochalsh, Invergordon and Corpach have already been identified and used as a suitable entry points for major components such as the blades, nacelles and tower sections.

Electricity Connection

2.6.6 Connection to the electricity distribution system is a major consideration when siting wind energy developments. Where possible, connections are made into the existing network, but, there must be suitable capacity and stability on the network to accommodate the proposed generation capacity. A new sub station has been constructed as part of the permitted Millennium Wind Farm scheme.

2.6.7 The electrical Distribution Network Operator, Scottish and Southern Energy PLC, has confirmed that there will be sufficient capacity on the existing 132kV circuit and within the new sub station to accommodate the additional generation from the six Millennium Section 36 Extension turbines.

2.7 PROJECT DESIGN

2.7.1 A scoping opinion was requested from the Scottish Government in January 2008. The scoping response was issued in April 2008 (attached at Appendix 1.1) and included comments from The Highland Council, SNH, The Mountaineering Council of Scotland, SEPA and Scottish Government Fisheries Board. The design of the Section 36 Extension has advanced in tandem with a continuing process of site evaluation, meteorological monitoring and consultations with various statutory and non-statutory organisations. The scheme has been developed using a design philosophy that the wind farm will have minimal effects on the surrounding environment and will be sited sensitively within the existing landscape.

2.7.2 Independent consultants were commissioned to conduct baseline surveys and collate existing data to evaluate and advise on changes to the project design as it evolved. An initial Phase 1 habitat survey and desk-based and walk over archaeological survey were utilised in the design process in order to avoid obvious major constraints at the site. Subsequent peatslide risk assessments have confirmed the acceptability of the proposed turbine and access road layout.

2.7.3 The project design has assumed that Nordex turbines will be utilised on the Section 36 Extension. These are each designed to generate up to 2.5MW of electricity. They will have a maximum blade tip height of 125 metres with a hub height of 80 metres and a rotor diameter of 90 metres. The appropriate consultants have been asked to carry out their assessments assuming these machine dimensions and characteristics.

2.7.4 Independent landscape, hydrological and engineering consultants were asked to identify the constraints on the positioning of the turbines, access tracks and other elements of the site development. The individual consultants made recommendations for small-scale alterations (micrositing) to both track and turbine locations.

2.7.5 These suggestions have formed part of the iterative design process. They were evaluated and various changes were adopted.

2.8 MITIGATION

Ecology

2.8.1 Following the Phase 1 Habitat survey turbine positions were generally located to avoid undisturbed areas of sensitive montane heath and isolated patches of a scarce clubmoss (Lycopodium annotin). Sensitive habitats will be marked out on site prior to the start of construction and avoided by at least 10 metres by micrositing of the access tracks and turbines as permitted under condition.

Ornithological Issues

2.8.2 A considerable amount of ornithological monitoring has been undertaken on the Millennium site and environs since 2003 involving vantage point watches and breeding bird surveys. Raptors were identified as species of particular concern given the nature of the terrain and also the proximity to the known golden eagle territories further to the west of the site. The surrounding moorland also supports a diverse range of moorland breeding birds including golden plover and occasional peregrines and merlin. The recent designation of the West Invernesshire Lochs SPA has necessitated further dawn and dusk survey effort for common scoter and black-throated diver.

2.8.3 The final site design has been arrived at by an iterative process, the current area of the wind farm deemed to have minimal sensitivity in terms of potential for collision risk. It is accepted that some displacement of the Golden Plover may result from the construction of the wind farm and this extension but the results of monitoring to date generally suggest that there has been little impact on the breeding population of Golden Plover. There are proposals within the ornithological chapter for a ten year programme of monitoring of Golden Plover breeding activity, in and adjacent to the wind farm, during the operation of the turbines.

Hydrology and Peat

2.8.4 The Millennium Wind Farm Section 36 Extension lies in the catchment area of the Loch Garry and ultimately the River Garry. This River Garry is a designated salmonid water and Atlantic salmon are known to occur well downstream of the development area. Otters are also known to traverse the application area via the natural burns and rivers.

2.8.5 The current site layout has been designed to minimise the number of stream crossings. There will be one crossing of a minor stream (the Allt Lundie) between turbines four and five. Construction activities to date have involved significant efforts to prevent contamination of water bodies and water courses with constant downstream logging of water quality. To date there have been no incidents of concern.

2.8.6 The peat depth survey over the proposed extension area has generally proved peat to be thin or absent (generally less than 0.5 metres). If areas of deep peat are encountered (generally greater than 0.6m thick) they will crossed using standard floating road techniques which minimises the hydrological disruption and the effective carbon displacement. The peat slide risk has been assessed as low.

Noise

2.8.7 Due to the remoteness of the site and the location of the extension turbines there are not considered to be any likely effects on adjacent properties including those at located at Achlain, Dalcheichart and isolated properties to the south of the site.

Landscape and Visual Effects

2.8.8 The assessment carried out by our consultants has assessed the effects of extending the permitted Millennium scheme by six turbines combined with other cumulative impacts such as other wind farm developments, the Glendoe hydro-electric power scheme and the proposed upgrade to the Beauly Denny overhead power line.

Archaeology

2.8.9 The archaeological assessment was completed on two levels. Initially a desk based study was completed and then a walkover survey carried out over the application area. This desk study highlighted previously identified areas of archaeological interest predominantly remote from the application boundary.

2.9 SUMMARY AND CONCLUSIONS

2.9.1 Although it is acknowledged that in practice every wind energy project has some impact on the locality, it was considered that the second proposed small extension to the Millennium Wind Farm site offered the following environmental and economic characteristics in its favour:

- The site is not affected by any national landscape, ecological or archaeological designation;
- The site is located within an area of extensive moorland, within which a relatively large wind farm could be accommodated without causing unacceptable harm to the environment;
- Limited effect on the visual amenities of properties and on the surrounding area;
- Good wind resource;
- Favourable grid connection.

2.9.2 Where possible, within the scope of a wind farm development the project design reflects the findings and recommendations of the extensive consultations and assessments. The results of these consultations and assessments are contained in the individual chapters within this Environmental Statement.

MILLENNIUM WIND FARM
SECTION 36 EXTENSION

Chapter Eleven

Cultural Heritage

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CHAPTER ELEVEN: CULTURAL HERITAGE

11.1 INTRODUCTION

11.1.1 This chapter assesses the predicted impacts of the proposed second extension of the Millennium Wind Farm on cultural heritage features.

11.1.2 Cultural heritage features have been defined as all surviving man-made features pre-dating First Edition Ordnance Survey mapping (surveyed 1871-1872 in this area) and selected sites of more recent date. This includes all Scheduled Ancient Monuments and Listed Buildings. Cultural Heritage, as it is interpreted here, thus includes all types of historic buildings and archaeological sites. Potential effects upon Inventory Historic Gardens and Designed Landscapes and Conservation Areas are considered in the Landscape and Visual Amenity assessment (Chapter 6).

11.1.3 The key objectives are to:

- identify and evaluate cultural heritage features that may be affected by the Millennium Wind Farm Section 36 Extension;
- assess the direct and indirect impacts of the construction, operation and decommissioning of the wind farm extension on these sites;
- propose appropriate mitigation to these impacts.

11.2 METHODOLOGY

Study Areas

11.2.1 The Study Area takes in three concentric areas

- The Inner Study Area is based on the proposed wind farm extension's boundary. All cultural heritage features regardless of their status were considered (if present) for construction and operational impacts.
- The Middle Study Area reaches 5km from the proposed wind farm extension's boundary. Within this area all sites of national significance, defined as Scheduled Ancient Monuments, Category A Listed Buildings and Non-Statutory Register (NSR) Sites of Schedulable Quality (Highland Council Category C and V) or of national importance in the opinion of the assessor are considered for potential impact on setting.
- The Outer Study Area reaches 35km from the proposed wind farm extension's boundary and is based on the Zone of Theoretical Visibility, sites of exceptional importance such as World Heritage Sites are considered within this area for potential impact on setting.

Data Sources

11.2.2 The following data sources have been used in the desk-based study:

- National Monuments Record of Scotland (NMRS);
- vertical aerial photographs held by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS);
- Highland Council's Sites and Monuments Record (SMR);
- Historic Scotland Schedule of Ancient Monuments and List of Listed Buildings;
- maps held by National Library of Scotland;
- Statistical Accounts and other readily accessible published sources.

A list of sources and references is set out in Appendix 11.3.

Consultations

Historic Scotland

11.2.3 Historic Scotland scoping response (Appendix 1.1) stated that "given the proximity of this second extension to the previous extension we are content for the assessment to concentrate on the baseline previously established for the other Millennium applications."

Highland Council Archaeology Unit

11.2.4 Kirsty Cameron of the Highland Council Archaeology Unit 's scoping response (Appendix 1.1) recommended that the entire extension area be subject to a walkover survey as earlier stages of the wind farm proved that unrecorded sites can survive in what appears to be an unpromising archaeological landscape.

11.2.5 It was also stated that "the results of the ZVI for the extension can be referred to the previous ES if no additional issues are arising" and went on to confirm that there are no specific sites that they would recommend for visualisations.

Field Survey Methodology

11.2.6 A walkover survey of the whole of the extension area was carried out to inform the cultural heritage impact assessment. A handheld GPS set was used to guide the walkover. No cultural heritage features were identified on this walkover.

11.3 ASSESSMENT METHODOLOGY

Setting Assessment Methodology

11.3.1 The process of assessment follows a series of steps to arrive at a final judgement on the nature of any predicted impacts and their significance:

11.3.2 The nature of the archaeological site is described and briefly interpreted.

11.3.3 The present-day landscape surrounding the site is described, based on a site visit, without reference to the wind farm proposals or the cultural heritage.

11.3.4 An archaeological interpretation of the setting of the site is given, identifying elements of the landscape that are relevant to understanding and appreciation of the site.

11.3.5 The extent of intervisibility between the heritage site and the proposed development is described, based on visualisations showing the proposed development and a site visit. This section describes the predicted intervisibility and should not be confused with impact.

11.3.6 The sensitivity of the site to impacts on its setting is assessed, taking into account the 'Assessment Criteria' for sensitivity described below. Sites are judged to have high, medium, low or negligible sensitivity to impacts on their setting, based on the ability of the average observer to appreciate and understand the setting of the site.

11.3.7 The effects of the development on the setting of the site are assessed, taking into account the entries for 'description of setting', 'discussion of site function and relationship with setting including view directions' and 'visual relationship with development'. The effects are compared with the 'Assessment Criteria' for magnitude described below, giving an assessment of the magnitude of the impact as major, moderate, minor or negligible.

11.3.8 The overall impact on the setting of the site is assessed, taking into account the magnitude of the impact and the sensitivity of the site following the 'Assessment Criteria' described below. The significance of the impact is assessed as major, moderate, minor or negligible.

Significance Criteria

Direct Effects

11.3.9 The sensitivity of a cultural heritage feature to direct effects reflects the level of importance assigned to it. This is the product of a number of factors, including its potential as a resource of archaeological data, its association with significant historical events, its role as a local landmark with cultural associations and its aesthetic value. Official designations applied to archaeological sites and buildings have been taken as indicators of importance, as they reflect these factors. Scheduled Ancient Monuments are considered of national importance, as are sites identified as candidates for scheduling on non-statutory registers. NPPG 5: Archaeology and Planning also allows for other sites to be classified as of regional or local importance, although these are not formal designations and do not imply any legal status. The three grades of listed buildings, A, B and C(S), identified in the Memorandum of Guidance, approximate the levels of importance assigned respectively to archaeological sites of national, regional and local importance.

11.3.10 In defining what constitutes a key element of the site, or a major, slight or negligible alteration, account has been taken of the extent to which the factors outlined above contribute to the overall value of the feature.

11.3.11 The criteria used for defining a site's sensitivity to direct effects and then assessing the magnitude of those effects are summarised in Table 11.1 and Table 11.2 below. The criteria for assessing the significance of such effects are presented in Table 11.5.

Table 11.1: Criteria for Assessing the Sensitivity of Cultural Heritage Features to Direct Effects

Sensitivity of Receptor	**Definition**
High	Sites of national or greater importance, including Category A Listed Buildings, Scheduled Ancient Monuments and Non-Statutory Register sites of schedulable quality.
Medium	Archaeological sites or buildings of regional importance, including Category B Listed Buildings and Non-Statutory Register sites of regional importance.
Low	Archaeological sites or buildings of local importance, including Category C (S) Listed Buildings
Negligible	A badly preserved or extremely common type of archaeological site/building of little value at local, regional or national levels.

Table 11.2: Criteria for Assessing the Magnitude of Direct Effects on Cultural Heritage Features

Magnitude of effect	**Definition**
Major	Total loss or major alteration of the site.
Moderate	Loss of one or more key elements of the site.
Minor	Slight alteration of the site.
Negligible	Very slight or negligible alteration of the site

Definition of Setting

11.3.12 English Heritage offers a definition of setting in its Conservation Principles Policies and Guidance for the Sustainable Management of the Historic Environment (2nd Stage Consultation). Paragraph 41 states:

"'Setting' is an established concept that relates primarily to the surroundings in which a place is experienced, while embracing an understanding of perceptible evidence of the past in the present landscape. Definition of the setting of a significant place will normally be guided by the extent to which material change within it could affect (enhance or diminish) the place's significance".

11.3.13 Following Colcutt (1999), elements of the landscape that are relevant in this way may be topographic, if the site was located to take advantage of natural features such as defensive slopes, views, watercourses etc. They may also comprise elements of landuse, in the case of sites that are related to a regime of landuse, e.g. pastoral farming or extractive industry that is still operative or has shaped the landscape in recognisable ways. Other archaeological sites may also contribute towards the group setting of the main feature under discussion, if it can be convincingly argued that the sites were functionally related or that the presence of an earlier feature influenced the siting of the main heritage feature.

11.3.14 All sites exist within and are constructed with reference to an immediate setting, which is the area that makes the site location intelligible to the visitor. Some sites are also situated in relation to a wider landscape setting. Where the location of a site has been deliberately chosen to command specific views of other sites or features of the landscape, an appreciation of such views is integral to an understanding of the role of the site. In some cases, where a site was originally intended to be viewed from specific locations, and can still be appreciated in this way, distant views towards a site may also require consideration.

Sensitivity to Impacts on Setting

11.3.15 The assessment of sensitivity used in this assessment is informed by current practice in Visual Impact Assessment, which identifies and assesses impacts on 'sensitive receptors', locations in which people are predicted to experience visual impacts. The sensitivity of a visual receptor depends largely on the numbers of people experiencing a visual impact, their expectations and the context in which it is experienced (LI-IEMA 2002, paragraph 1.31). Similarly, the sensitivity of an archaeological site's setting can be evaluated, based on the ability of an average observer to appreciate and understand the site's setting and the value he/she attaches to the experience. For example: some sites are visually impressive and widely visited and appreciated by the general public; in other cases there may be little to see on the ground, the current setting may have little to do with the site, and visiting the site is not particularly informative. Classification of a site as of national importance (a scheduled ancient monument for example) reflects a range of different considerations, and the designation itself should not be taken to mean high sensitivity to visual impacts and as such to impacts on setting.

11.3.16 A number of factors which are useful predictors of the numbers of people likely to visit a site are taken into account in assessment of sensitivity. Promotion refers to awareness of the site beyond the archaeological community and is a measure of the extent to which it is presented to the public as a site worth visiting. The accessibility of a site - the ease with which it can be visited - is also relevant. Presence in the landscape refers to the extent to which the site exists as an identifiable feature that can be appreciated and understood by the average visitor, and has some bearing on likely visitor numbers as well as the value any visitors are likely to attach to the site. The present condition of the site's setting is also relevant to sensitivity, as it affects the quality of the visual characteristics of a site, and whether these are likely to be valued by those who experience it: where the relationship between a site and its original setting survives as a well-preserved archaeological landscape, the level of sensitivity will be higher

than in cases where more recent land use has disrupted the coherence of the site's setting, making the location of the site more difficult to 'read' on the ground. The sensitivity of the setting of some sites resides largely in a site-specific and subjective 'sense of place': such considerations, while relevant, do raise problems for objective assessment, but can sometimes be corroborated by previous written accounts of a site.

11.3.17 Table 11.3 is a general guide to the attributes of sites of high, medium, low or negligible sensitivity. It should be noted that not all the qualities listed need be present in every case, and professional judgement is used in balancing the different criteria.

Table 11.3: Criteria for Assessment of Sensitivity of a Site to Impacts on its Setting

Sensitivity	Typical Site Characteristics
High	A visually prominent feature situated in a well-preserved archaeological landscape, which is locally well-known or promoted as a tourist attraction with signposts and information provided on site, which is accessible and likely to be visited and appreciated by substantial numbers of people.
Medium	A feature which is recognisable by the average visitor, in a setting which is only partially modified by later land use and can still be readily appreciated, which is mentioned in non-specialist publications, and likely to receive occasional visitors.
Low	A feature which can be recognised on the ground only by the trained observer and is documented in the specialist literature, with a setting that may have been substantially altered from its original condition but can still be understood, which is unlikely to be visited or appreciated by the general public
Negligible	A feature whose presence in the landscape is imperceptible, or which has been effectively divorced from the relevant elements of its setting, and which is not known or visited by the general public

Magnitude of Impact on Setting

11.3.18 The magnitude of an impact reflects the extent to which relevant elements of the site's setting are changed by the development, and the appropriateness of those changes in terms of compatibility between the site and the development. Impacts likely to be judged of major, moderate, minor or negligible magnitude are described in Table 11.4. As with Table 11.3, this is intended as a general guide, and it is not anticipated that all the criteria listed will be present in every case.

11.3.19 Among criteria for magnitude, the apparent scale of the development in relation to the site is usually relevant, determining whether the site/setting element, or the development, will be the dominant visual feature within the post-development setting of the site. Complementarity is also considered, referring to the extent to which the development is in keeping with the land use history of the site and its setting, represents a positive contribution to its surroundings, or introduces a new and incompatible element into the landscape. The permanence of the changes are also taken into account, irreversible changes being of greater magnitude, while the magnitude of temporary or reversible changes take account of the planned lifetime of the development in comparison with the age of the site. Any change to

elements of the landscape that have been identified as relevant to the setting of the site will generally result in an impact of minor or greater magnitude. Changes which reduce the ability to interpret a site in its setting are usually judged more serious than ones which merely alter the aesthetic appearance of the site, but in sites with a strong 'sense of place', where past events are more easily imagined, aesthetic considerations can be given greater weight.

Table 11. 4: Criteria for Assessment of Magnitude of an Impact on a Site's Setting

Magnitude	Typical impacts
Major	The characteristics of landscape elements relevant to the setting of the site are radically and irreversibly changed as a result of the development, so that the relationship between the site and its setting is no longer readily appreciable.
Moderate	The characteristics of landscape elements relevant to the setting of the site are substantially changed as a result of the development: relevant setting characteristics can still be appreciated, but with the introduction of new, unrelated elements that distract from and compete with the relevant setting elements, and cannot easily be reversed to approximate pre-development conditions.
Minor	The characteristics of landscape elements relevant to the setting of the site are slightly changed as a result of the development, but without adversely affecting the interpretability of the site and its setting: characteristics of historic value can still be appreciated, the changes do not strongly conflict with the character of the site, and could be easily reversed to approximate the pre-development conditions.
Negligible	The characteristics of landscape elements relevant to the setting of the site are only imperceptibly changed as a result of the development, or are changed in ways that positively complement the character of the site; the only noticeable adverse changes to the landscape are to elements that are not considered relevant to the setting of the site.

Significance of Impacts

11.3.20 The significance of an impact on the setting of a site is assessed by combining the magnitude of the impact and the sensitivity of its setting. The matrix in Table 11.5 provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the sensitivity or impact magnitude levels are not clear or are borderline between categories. Predicted impacts of major or moderate significance equate to potentially significant impacts in the EIA Regulations.

Table 11.5: Criteria for Assessing the Significance of Impacts on Cultural Heritage Features

Magnitude of Impact	**Feature Sensitivity**			
	Negligible	Low	Medium	High
Major	Negligible significance	Moderate Significance	Major Significance	Major Significance
Moderate	Negligible Significance	Minor Significance	Moderate Significance	Major Significance
Minor	Negligible Significance	Negligible Significance	Minor Significance	Moderate Significance
Negligible	Negligible Significance	Negligible Significance	Negligible Significance	Minor Significance

11.4 PLANNING POLICY CONTEXT

National Planning Policy Guidelines

11.4.1 NPPG5, Planning and Archaeology (1994), sets out the role of the planning system in protecting ancient monuments and archaeological sites and landscapes. It seeks to protect archaeological sites and their settings and to ensure that they are not adversely affected by new development. Preservation in situ is the preferred strategy but, in circumstances where this is not possible, mitigation can include arrangements to excavate and record a site.

11.4.2 NPPG18, Planning and the Historic Environment (1999), complements NPPG5 and deals with listed buildings, conservation areas, world heritage sites, historic gardens, designed landscapes and their settings. The guidance seeks to secure preservation whilst accommodating and remaining responsive to present day needs. For listed buildings and conservation areas, the guidance provided in NPPG18 is supplemented by more detailed advice in the Memorandum of Guidance on Listed Buildings and Conservation Areas (Historic Scotland, 1998).

11.4.3 SPP23, Planning and the Historic Environment, Consultative Draft (February 2008) aims to supersede and consolidate NPPG18 and NPPG5. It sets out the national planning policy for the historic environment with a view to its protection, conservation and enhancement. It should be used in conjunction with the Scottish Historic Environment Policy (SHEP) series (2007) which has been produced by Historic Scotland. SHEPs set out the Scottish Minister's policies with regard to Scotland's Historic Environment, Scheduling, Gardens and Designed Landscapes, Scheduled Monument Consent and Properties in the Care of Scottish Ministers.

Structure Plan

11.4.4 The Highland Structure Plan (March 2001) Policy BC1 states that archaeological sites affected by development proposals should be preserved, or, in exceptional circumstances where preservation is impossible, the sites will be recorded at the developers expense.

Local Plan

11.4.5 The Lochaber Local Plan (1999) includes the area of the wind farm. There are no policies that are relevant in the present context.

11.4.6 At present a new local plan for this area is in a draft phase. This plan – The West Highland and Islands Local Plan, Pre-deposit Draft May 2008 – sets out the following policy which is relevant to this site.

Policy 4 Natural, Built and Cultural Heritage.

11.4.7 When making decisions on development proposals we will take account of the level of importance of, and the effect on, the natural, built and cultural heritage (see Appendix 11.1 and Background Maps).

1. In areas of local/regional importance we will allow developments if we believe that they will not have an unreasonable impact on the amenity and heritage resource, particularly where it can be shown that they will support communities in fragile areas who are having difficulties in keeping their population and services.
2. In areas of national importance we will allow developments that can be shown not to compromise the amenity and heritage resource. For national designations, where there may be any significant adverse effects, these must be clearly outweighed by social or economic benefits of national importance. It must also be shown that the development will support communities in fragile areas who are having difficulties in keeping their population and services.
3. In areas of international importance we will allow developments if they will not adversely affect the integrity of the site. Proposals that would adversely affect the relevant interest for which the site is designated will only be allowed if there is no alternative solution and there are imperative reasons of over-riding public interest, including those of a social or economic nature. Where a priority habitat or species (as defined in Article 1 of the Habitats Directive) would be affected prior consultation with the European Commission is required, unless the development is necessary for public health and safety reasons.

11.5 BASELINE DESCRIPTION

11.5.1 A gazetteer of all cultural heritage sites included in this study is presented as Appendix 11.1. All sites are referred to in the text by Headland Archaeology (HA) numbers and are shown in Figure 11.1

Designated Cultural Heritage Features within the Inner Study Area.

11.5.2 There are no Scheduled Ancient Monuments, Listed Buildings or sites with non statutory designations within the Inner Study Area

Other Cultural Heritage Sites within the Inner Study Area

11.5.3 There are no other identified cultural heritage sites within the Inner Study Area.

Designated Cultural Heritage Features within the Middle Study Area.

11.5.4 Two Scheduled Ancient Monuments lie within the Middle Study Area; the Achlain section of the Fort Augustus to Bernera Military Road (HA1) and the Tir nan Og cairn (HA2).

HA No	Name	Type	SAM No.	Distance to nearest turbine (km)
1	Fort Augustus-Bernera	Military Road	11483	4.7
2	Tir Nan Og	Cairn	11494	4.9

11.5.5 There is one Listed Building within the Middle Study Area; this is the Category C(s) Invergarry suspension foot bridge (HA7).

HA No	Name	Type	LB No	Distance to nearest turbine (km)
7	Invergarry, Suspension Footbridge	Suspension Footbridge	6828	4.6

11.5.6 There are four Highland Council Archaeology Service NSR 'sites of schedulable quality' within the Middle Study Area. These include three crannogs (HA3, HA5, HA6), two of which are completely underwater. The fourth site is a post medieval church/ graveyard (HA4).

HA No	Name	Type	Reference	Distance to nearest turbine (km)
3	Eilean Mhic Raonuill	Crannog	NMRS NH20SE 3	3.4
4	Cill Donnain, Munerigie	Church/ Graveyard	NMRS NH20SE 4	3.7
5	Eilean Nan Mhuilchean	Crannog	NMRS NH20SE 1	4.4
6	Eilean Nan Mhuilchean	Crannog	NMRS NH20SE 2	4.5

Sites of Exceptional Sensitivity within the 35 km Study Area

11.5.7 No sites of exceptional sensitivity deemed to be at risk of impacts upon setting were identified within the 35 km study area.

Potential for Unrecorded Cultural Heritage Features within the Inner Study Area

11.5.8 The proposed wind farm extension lies between 450 and 550 m OD and is characterised as heather moorland, with areas of bog, crossed by numerous small streams and gorges. No settlements are recorded here and given the unsuitability of the ground for agriculture it is unlikely to have been used for anything other than grazing and, more recently, for shooting.

11.5.9 Walkover surveys for earlier phases of the Millennium Wind Farm have recorded a group of 25 stone cairns, seemingly arranged in four rows on the slopes of Ceann a Nhaim as indicated by the single black line on Figure 11.1. According to local tradition, the site is believed to have been a resting place for coffins being brought for burial to the old cemetery near Achlain. In addition to this a group of possible stone cists were recorded. It is therefore possible that previously unrecorded cultural heritage features will survive on this hillside. However due to the lack of agricultural activity at this altitude it is presumed that any such features would survive upstanding and would therefore have been recorded during the walkover survey.

11.5.10 Given the altitude and the unsustainable nature of the topography and that previous walkover surveys have recorded sites upstanding, the potential for unrecorded cultural heritage features within the Inner Study Area is considered to be negligible.

11.6 ASSESSMENT OF CONSTRUCTION IMPACTS

Wind Farm Construction

11.6.1 As no known sites of cultural heritage interest have been identified within the boundaries of the proposed extension to the wind farm, the sole potential impact is damage to or destruction of previously unrecorded sites of cultural heritage interest. Due to the upland location of the wind farm extension and the absence of identified sites, this potential is negligible.

Proposed Mitigation Measures

11.6.2 As the potential for unrecorded sites to exist within the boundary of the wind farm extension is deemed to be negligible, no archaeological work is proposed for this area.

11.7 ASSESSMENT OF OPERATIONAL IMPACTS

Wind Farm Operation

11.7.1 Planning permission has already been granted for the Millennium Wind Farm immediately to the north of the proposed extension. The ZTV considered for this assessment is only for the six turbines within the proposed Section 36 Extension.

11.7.2 The ZTV indicates that the extension turbines will not be visible from the two Scheduled Ancient Monuments (HA1& HA2) within the Middle Study Area.

11.7.3 The bareground ZTV shows that theoretically one turbine will be visible to hub height at a distance of 4.6km from the Category C(s) Listed Invergarry suspension foot bridge (HA7). This is unlikely to be the true visibility due to the plantation forestry in the immediate surroundings blocking views to the wind farm. As a suspension bridge this site is a purely functional feature with only its immediate setting being of concern. It is therefore considered that the proposed wind farm will be of no impact on the setting of Invergarry suspension foot bridge.

11.7.4 NSR sites of Schedulable quality, HA5 and HA6 are not considered for impacts on their setting as at present they are below water and therefore have no physical relationship with their setting. Cill Donnain, Munerigie church/ graveyard (HA4) is not within the ZTV.

11.7.5 From the crannog, Eilean Mhic Raonuill (HA3) all six of the proposed turbines are theoretically visible, at a distance of 3.4km. As agreed with Historic Scotland and the Highland Council we will refer back to the original impact setting for this site in the original Millennium Wind Farm Environmental Statement, (Appendix 11.2).The significance of the impact on setting of this site was considered to be of negligible significance. The addition of the proposed extension turbines will not increase the magnitude of impact on the setting of this site. Therefore there will remain an impact of negligible significance on the setting of Eilean Mhic Raonuill.

Cumulative Impacts

11.7.6 One site, Eilean Mhic Raonuill (HA3) is subject to an impact from the operation of the proposed wind farm extension. This impact is of negligible significance as this site does not have a wider landscape setting. It therefore follows that the potential cumulative impact with other wind farms or the original Millennium Wind Farm will remain an impact of negligible significance. As there is no operational impact on the other six cultural heritage features (HA1, HA2 , HA4, HA5, HA6, HA7) from the proposed wind farm extension it remains that cumulatively there will be no impact

Proposed Mitigation and Enhancement Measures

11.7.7 There is one operational impact, from the proposed wind farm extension on the site Eilean Mhic Raonuill (HA3), this impact is negligible and therefore no mitigation is proposed.

Residual Impacts

11.7.8 There will one operational impact, this is on Eilean Mhic Raonuill (HA3) and is of negligible significance. This site lies 3.4km from the proposed wind farm extension. This impact will remain of negligible significance throughout the lifespan of the wind farm extension.

11.8 SUMMARY OF IMPACTS

11.8.1 A summary of impacts is provided in Table 11.6.

Table 11.6: Summary of Impacts

Potential Impact	**Proposed mitigation**	**Significance**	**Residual impact**
Direct impacts upon unknown sites	None	Unknown	Unknown
Operational Impacts upon setting of Eilean Mhic Raonuill (HA3)	None	Negligible	Negligible
Operational Impacts upon setting of (HA1, HA2 , HA4, HA5, HA6, HA7)	None	None	None

MILLENNIUM WIND FARM
SECTION 36 EXTENSION

Appendix 11.1

Archaeological Gazetteer & Concordance

west coast energy

APPENDIX 11.1: ARCHAEOLOGICAL GAZETTEER & CONCORDANCE

HA No	Name	Type	Description	NGR	Designation
1	Fort Augustus-Bernera	Military Road	Fort Augustus-Bernera Military Road, 510m Se Of Achlain	228309, 81108	SAM 11483
2	Tir Nan Og	Cairn	Grass covered cairn, 10.5m in diameter by 1m high HS says "Situated just above the lower break of slope of a wide river valley in slightly forested moorland" HS 2001	228544, 81231	SAM 11494
3	Eilean Mhic Raonuill	Crannog	Small natural island 8m diameter by 0.1m high with a small modern cairn on top	229150, 803110	NMRS NH20SE 3
4	Cill Donnain, Munerigie	Church/ Graveyard	This graveyard, which is near circular and may be very early, it is now disused. In the SE corner there is a raised area which is possibly the site of the church.	226580, 802160	NMRS NH20SE 4
5	Eilean Nan Mhuilchean	Crannog	Location of a crannog now completely underwater	225100, 802200	NMRS NH20SE 1
6	Eilean Nan Mhuilchean	Crannog	Location of a crannog now completely underwater	226540, 801980	NMRS NH20SE 2
7	Invergarry, Suspension Footbridge Over River Garry By Hydro Dam Invergarry,	Suspension Footbridge	Suspension footbridge over the River Garry	221615, 801906	LB 6828

MILLENNIUM WIND FARM
SECTION 36 EXTENSION

Appendix 11.3

Archaeological Sources and References

west coast energy

APPENDIX 11.3: ARCHAEOLOGICAL SOURCES & REFERENCES

Cartographic Sources

The following maps (listed in chronological order) held by the National Library of Scotland were examined:

1640	Gordon, R Aberdeen, Banf [sic], Murrey [sic] &c. to Inverness: [and] Fra the north water to Ross
1745	Moll, H, The West Part of Inverness Sheet. Lochaber with all the territories west of it.
1745	Moll, H, The East Part of the Shire of Inverness Sheet with Badenoch &c.
1747-55	Roy, W *Military Survey* 24/3 & 24/2.
1830	Thomson, J *Inverness-shire*
1873	Ordnance Survey *Inverness-shire 1:10,560 scale map* Sheet LXXXII (Surveyed 1871)
1874	Ordnance Survey *Inverness-shire 1:10,560 scale map* Sheet LXVII (Surveyed 1872)
1904	Ordnance Survey *Inverness-shire 1:10,560 scale map* Sheet LXXXII (Surveyed 1871, Revised 1899)
1904	Ordnance Survey *Inverness-shire 1:10,560 scale map* Sheet LXVII (Surveyed 1872, Revised 1901)
1969	Ordnance Survey *Inverness-shire 1:10,560 scale map* Sheet NH20NE (Surveyed 1966, Revised 1968)
1991	Ordnance Survey *Inverness-shire 1:10,000 scale map* Sheet NH20NE (Surveyed 1966, Contour Survey 1979)

Aerial Photographs

The following vertical aerial photographs held by the Royal Commission on the Ancient and Historic Monuments of Scotland were consulted:

Sortie	Frames	Date
CPE/Scot/UK 295	3403-3400	18 September 1947
541/A/400	3204-3213	21 May 1948
541/A/400	4203-4214	21 May 1948
541/A/483	3271-3277	23 June 1949
58/RAF/802	4088-4079	12 October 1951

Monuments Record

NMRS data derived from a digital extract provided by RCAHMS dated 18.03.08.
SMR data derived from a digital extract from Highland Council Archaeology Unit data, dated 10.03.08.
Scheduled monument area information derived from Historic Scotland data dated 03.03.08 © Crown Copyright (Historic Scotland)
Listed building information derived from Historic Scotland data dated 03.03.08 © Crown Copyright (Historic Scotland)

References

Collcutt, S 1999 'The Setting of Cultural Heritage Features' in *Journal of Planning Law* (June 1999), 498-513.

LI-IEMA 2002 *Guidelines for Landscape and Visual Impact Assessment (second edition)*, The Landscape Institute with the Institute of Environmental Management and Assessment.

The New Statistical Account of 1834-45, *Boleskine and Abertarff*, Vol 14, (p51-63)

The New Statistical Account of 1834-45, *Urquhart and Glenmoriston*, Vol 14, (p36-51)

The Old Statistical Account of 1791-99, *Boleskine and Abertarff*, Vol 20, (p19-39)

The Old Statistical Account of 1791-99, *Urquhart and Glenmoriston*, Vol 20, (p297-318)

APPENDIX 11.2: IMPACT ASSESSMENT FOR EILEAN MHIC RAONUILL FROM MILLENNIUM 4 TURBINE EXTENSION ENVIRONMENTAL STATEMENT (MARCH 2007)

Name **EILEAN MHIC RAONUILL**

Type CRANNOG

Status NSR C

SAM No 0

HBNum 0

NMRS Map Sheet NH20SE

NMRS site 3

SMR No NH20SE0003

Grid Ref 229750 803710

Description of site:

Description of setting:
Located on Loch Lundie.

Discussion of site function and the relationship with setting including view
A probable settlement placed in a defensive position on the water. Views to and from it are not though to have been
significant factors in determining location.

Visual relationship with
The crannog is located approximately 4.5 km from the wind farm. The ZVI indicates that turbines will be visible from the site.

Sensitivity of setting:
The crannog has negligible presence in the landscape and is not **Sensitivity**
Negligible promoted, nor is access facilitated. The site is not considered to have a wider landscape setting.

Effects of the wind farm on setting of the site:

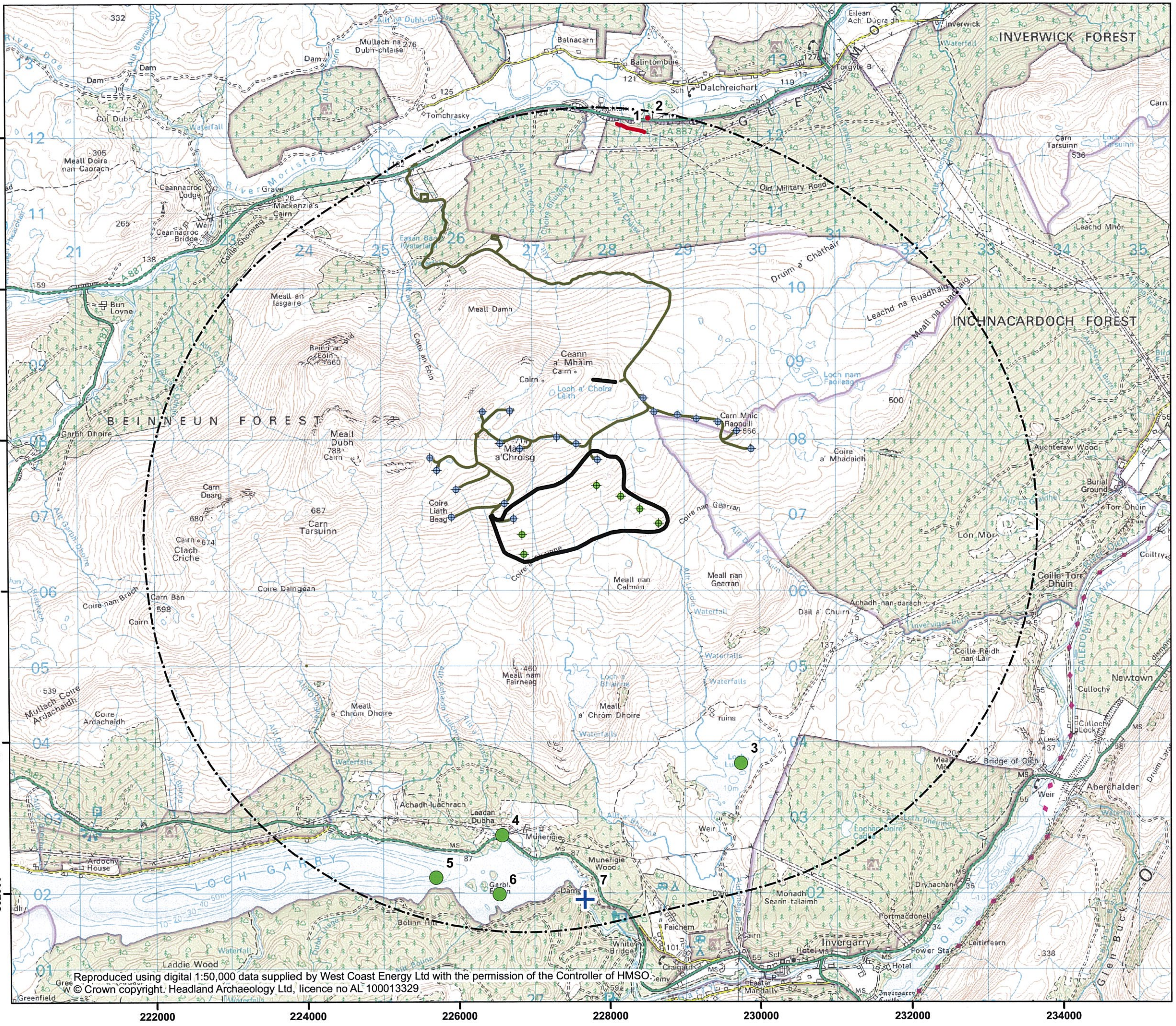
Nil **Magnitude** Negligible

Discussion of impact on the setting of the site:

Nil **Impact** Negligible

Proposed mitigation None

Residual impact Negligible



HEADLAND ARCHAEOLOGY Ltd

Key

- NSR Site of Schedulable Quality
- Category C(S) Listed Building
- Scheduled Ancient Monument
- Application Area
- Extension Turbines
- Millenium Windfarm Turbines
- Middle Study Area
- Access Track

N

0 2.5 Km

FIGURE 11.1:
MILLENNIUM WIND FARM
SECTION 36 EXTENSION,
CULTURAL HERITAGE FEATURES.