INTRODUCTION

This Non Technical Summary has been produced to accompany the Variation of Consent Environmental Statement (Voc ES) for Heckington Fen Wind Park in accordance with the Electricity Generating Stations (Variation of Consents) (England and Wales) Regulations 2013 and the Electricity Works (Environmental Impact Assessment)(England and Wales) Regulations 2000, as amended.

The Non Technical Summary provides a summary of the assessments contained within the VoC ES and presents the information in a non-technical manner avoiding, wherever possible, the use of technical terminology.

The VoC ES has been compiled and project managed by Ecotricity, with some individual chapters being prepared, and contributions into other chapters being undertaken, by leading independent experts in the relevant field. The key contributions have been:

- Landscape & Visual by WSP;
- Cultural Heritage by Oxford Archaeological Associates;
- Hydrology by Parsons Brinckerhoff; and,
- Noise by Hoare Lea Acoustics;

The Environmental Impact Assessment Project Team has extensive experience in both Environmental Impact Assessment and in the development of wind energy proposals across England and the wider UK.

Public consultation

Copies of this Non Technical Summary will be made available to the public on request at no cost. A hard copy of the VoC ES and accompanying documents can be viewed during the statutory consultation period at the following location:

- North Kesteven District Council, Kesteven Street, Sleaford, Lincolnshire, NG34 7EF.

This Non Technical Summary and the Variation of Consent Environmental Statement is available to download free of charge from www.ecotricity.co.uk/heckington-fen.

Variation of Consent Scheme

Vital Statistics

Number of Turbines:	Up to 22
Maximum Height to Upper Tip:	125m
Maximum Generating Capacity:	54.9MW
Expected Green Electricity Generated (per year):	Up to 162 GWh[1]
Expected Equivalent UK Homes Powered (per year):	Up to 38,650[2]
Expected Tonnes Of CO_2 Saved (per year):	Up to 69,650[3]

Original Scheme

Vital Statistics

Number of Turbines:	Up to 22
Maximum Height to Upper Tip:	125m
Maximum Generating Capacity:	66MW
Expected Green Electricity Generated (per year):	Up to 131 GWh[4]
Expected Equivalent UK Homes Powered (per year):	Up to 39,700[2]
Expected Tonnes Of CO_2 Saved (per year):	Up to 56,832[3]

[1] Based on site specific wind data and taking into account expected transmission losses.

[2] Old calculation is based on 'medium' UK domestic electricity consumption of 3,300kWh/pa as used by OFGEM. New calculation is based on the DECC's average unadjusted electricity consumption per UK household in 2013 of 4,192 kWh/year (Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/389227/Sub-national_electricity_consumption_statistics__2005_-_2013.xlsx)

[3] This figure is derived using a carbon dioxide offset ratio of 430g carbon dioxide per kWh of wind generation. It should be noted that future changes in the power generating mix and fuel costs in the UK over the life of the wind park means this figure may change over time.

[4] Assuming average UK wind farm performance with a capacity factor of 27.7% (2005-2009 average figure from Digest of UK Energy Statistics, DECC).

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VARIATION OF CONSENT

In 2011, Ecotricity submitted an application, under section 36 of the Electricity Act 1989, to install and operate an onshore wind farm of up to 22 wind turbines on land to the north of East Heckington, Lincolnshire. The application included a request for a direction under s.90 of the Town and Country Planning Act 1990 for deemed planning permission.

This application seeks to vary the consent that was granted by the Secretary of State in February 2013.

Legislative Context

Section 36 of the Electricity Act applies to proposals for the construction, extension or operation of an onshore electricity generating station whose capacity exceeds 50 MW.

Since the Planning Act 2008 came into force, it has not been possible or necessary to apply for section 36 consent in respect of an onshore generating station in England and Wales.

In 2013, the Growth and Infrastructure Act 2013 inserted a new section (36C) into the Electricity Act 1989.

The main aim of new section 36C of the 1989 Act is to make it possible for the designs of generating stations, already consented but not constructed or completed, to be modified in ways which the relevant section 36 consents would not otherwise permit and without the developer having to apply for a development consent order under the 2008 Act.

In addition, a new Section 90(2ZA) was inserted into the Town and Country Planning Act 1990 to allow for the variation of an existing deemed permission.

This process is referred to as a Variation of Consent granted under section 36 of the Electricity Act.

Policy Context

Although the original consent was granted under section 36 of the Electricity Act 1989; had it been submitted after the Planning Act 2008 came into force, the development would have been considered to be 'nationally significant'. As a result, the Overarching National Policy Statement for Energy (EN-1), and National Planning Statement for Renewable Energy Infrastructure (EN-3)) should be taken into consideration.

The National Planning Policy Framework is also relevant to this application, as is the (online) Planning Practice Guidance on Renewable and Low Carbon Energy.

Since the Heckington Fen s.36 consent was granted, the Regional Spatial Strategy for the East Midlands has been revoked by the Regional Strategy for the East Midlands (Revocation) Order 2013 (which came into force on 12 April 2013). The development plan for the area is therefore now only comprised of the North Kesteven Adopted Local Plan 2007 (the Local Plan).

Energy policy has continued to develop, however the main framework for the UK's current renewable energy and low carbon targets are derived from the Climate Change Act 2008 which was in force at the time of the original application and ES.

Chapter 2 of the VoC ES provides more details.

PROPOSED AMENDMENTS

In brief, the amendments sought to the consented scheme are:

- Amending the onsite access track along two sections;
- Relocating and increasing the footprint of the onsite substation;
- Relocating the temporary construction compound to an area of existing hardstanding;
- Providing temporary auxiliary crane pad areas;
- A new underground cabling corridor from the turbines to the onsite substation; and,
- Amending the turbine rotor diameter from 90m to a maximum rotor diameter of up to 103m;

A number of minor amendments to the wording of the Conditions, issued with the original Consent, are also proposed to reflect the above proposals.

Reasons for the amendments

The proposed variations set out above are necessary for a range of reasons:

Changing two sections of the onsite access track will allow existing agricultural tracks to be used instead of creating new tracks. This will reduce the amount of permanent arable land loss and minimise farming practices on the land.

The onsite substation is to be increased in size due to the necessity for an onsite 132kV substation rather than a 33kV control building as previously anticipated with the original application. Due to the increase in size it is proposed that the substation is moved away from the A17 and residential properties to minimise the visual impact of the substation. As the land to the north of the development site is lower than the south, a compromise between reducing the visual impact of the substation by moving it away from sensitive receptors and ensuring that the substation can be sufficiently protected from potential flooding has been made. The new location of the substation offers existing woodland screening and the potential for further screening as is proposed. Underground cabling from the turbines to the relocated onsite substation is also proposed.

The temporary construction compound is to be relocated to an area of existing hardstanding to reduce the temporary loss of agricultural land and to take advantage of the existing woodland screening afforded by the new location.

Temporary auxiliary crane pad areas are also proposed due to the potential that the chosen turbine model may require a secondary crane to assist with the turbine construction.

The turbine rotor diameter is proposed to be increased from 90m to a maximum rotor diameter of up to 103m to maximise the renewable energy generation from the proposed development without increasing the overall tip height, number of turbines or locations of turbines.

Chapter 3 of the VoC ES provides more details.

It is important to state that the following aspects of the consented scheme have <u>not</u> changed:

- **The maximum tip height of 125m;**
- **The maximum number of turbines (up to 22); and,**
- **The locations of the turbines.**

The proposed amendments would result in an overall decrease in the permanent loss of arable habitat from an original 99,035m^2 to 83,650m^2.

The new alignment of the onsite access tracks will result in a reduction in the area of arable habitat lost by 1.54ha.

The number of crossings of dry ditches will increase from 15 to 16, but will not change the number of crossings of permanently wet ditches.

The area of land required for permanent crane pad will remain the same as the original layout but the substation will be moved to the east of the site and the area required will increase by 0.35ha.

The area for temporary infrastructure will increase by 0.5ha due to an increase in the area of the construction compound and the potential need for temporary auxiliary crane pads.

Although the proposed changes in layout will result in a temporary increase in land take of 0.5ha, overall the new layout will require 1.54 ha less of permanent land take assuming the 22 turbine layout. The land take will be less with the 18 turbine layout. There will be approximately 660m^2 of additional woodland planting and new hedgerow.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Environmental Impact Assessment (EIA) is a process that is intended to ensure that planning permission for developments, which may have significant effects on the environment, should be considered only after prior assessment of the likely significant environmental effects of those projects has been carried out.

The EIA is presented in an Environmental Statement (ES).

The VoC ES follows the same EIA process as it did with the original ES. The legislation which covers the EIA process in England and Wales was amended in 2011 but is still takes the form of The Electricity Works (Environmental Impact Assessment)(England and Wales) Regulations 2000, now amended.

Chapter 4 of the VoC ES provides more details.

SCOPING AND CONSULTATION

Consultation is a key aspect of the EIA process as it helps to inform the nature and scope of potential impacts and therefore the various technical studies that are required in order to allow these potential impacts to be assessed.

The consultation process for this Variation of Consent application differs from the approach taken with the original application. There is no requirement to consult with the public or statutory consultees prior to making an application.

Discussions have taken place with the Department of Energy and Climate Change (the DECC) prior to this Variation of Consent application. In addition, a number of relevant statutory consultees were approached to provide comment on the amendments proposed. These include:

- North Kesteven District Council
- Boston Borough Council
- The Environment Agency
- Natural England
- The Ministry of Defence
- RSPB
- English Heritage
- Western Power Distribution
- JRC
- Black Sluice Internal Drainage Board
- The Heritage Trust of Lincolnshire
- Lincolnshire Council Historic Environment Team

Following consultation with relevant statutory consultees and the DECC, and with reference to the scope of the original ES assessments that formed part of the application for the original consent, a number of assessments were identified as relevant to this Variation of Consent ES. The likely effects on the environment as a result of the proposed amendments are presented in the proceeding section of this Non-Technical Summary.

A number of environmental topics considered in the original ES have been scoped out of the VoC ES on the basis that they are considered as having no potential to be affected by the proposed amendments. These include:

- Public safety
- Air quality
- Communications
- TV and radio reception
- Agriculture
- Tourism

Chapter 4 of the VoC ES provides more details on the identification of issues and those assessments scoped out.

ENVIRONMENTAL EFFECTS

On the basis of the consultation and scoping exercise described above, and the professional judgement of the EIA team, the following technical assessments have been undertaken and are reported in the VoC ES:

- Landscape and Visual Impact (Chapter 5)
- Cultural Heritage (Chapter 6)
- Ecology (Chapter 7)
- Ornithology (Chapter 8)
- Noise (Chapter 9)
- Miscellaneous (Chapter 10) including Hydrology and Flood Risk; Transport and Access; Aviation; and, Shadow Flicker.

THE ENVIRONMENTAL STATEMENT

Landscape and Visual (Chapter 5)

The methodology used to carry out the LVIA addendum is the same as that detailed in Chapter 5: Landscape and Visual of the original ES.

Since the submission of the original ES, the 'Guidelines for Landscape and Visual Impact Assessment' have been updated from the 2nd Edition (GLVIA 2) to the 3rd edition (GLVIA 3). It is worth noting, however, that the LVIA for the original ES was carried out using principles and practice largely in line with the subsequent GLVIA 3 guidance.

As the overall character of the baseline has not changed since the original ES, and the nature of the development is the same as that originally assessed, the sensitivity of the landscape and visual receptors is as presented in Chapter 5: Landscape and Visual of the original ES.

Considering the minor nature of the proposed amendments, notwithstanding that the overall land-take would be slightly less than the consented scheme; the overall level of physical landscape effects is considered to be as reported in the original ES.

Taking account of the large scale of the existing fenland landscape, its man-made context and the nature of the changes proposed to the consented development, including the amended substation, it is considered that the level of effect on the character of the host landscape would remain as reported in the ES, namely *Minor* to *Moderate.*

In the original ES significant effects (Major, Major-Moderate and Moderate-Major) were judged to be likely for the following receptors/features:

- Certain residential properties situated within 2.5km;
- Landscape character up to 1.5km;
- The public footpath crossing and adjacent to the site;
- Footpaths and Rights of Way between 1-2km; and,
- Main roads adjacent to the site (within 1km).

These likely significant effects have not changed when account is taken of the proposed amendments assessed in the VoC ES.

The proposed development would not cause any significant additional cumulative landscape or visual effects in the study area.

Overall, the proposed amendments, in particular the increased rotor diameter and lower blade sweep, would be perceptible from receptors in proximity, however this is not considered to change the overall level of effects reported in the original ES. The same would apply in respect of the updated substation proposal taking into account its revised location and increased size.

Cultural Heritage (Chapter 6)

The methodology used to carry out the Cultural Heritage addendum is the same as that detailed in the original ES Cultural Heritage chapter.

Whilst some planning guidance has changed since the original ES, the thrust of national policy has not.

A new geophysical survey has been carried out to take account of the amended site layout. This 2014 survey did not identify any geophysical anomalies that conceivably reflect archaeological remains.

The VoC ES Cultural Heritage assessment concluded that there would be no additional effects of the archaeological fabric as a result of the proposed amendments.

All relevant cultural heritage assets have been reconsidered in light of the proposed variations but no likelihood of a change (increase) in effect upon heritage-significance has been found in any given case.

Ecology (Chapter 7)

The proposed amendments to the consented scheme have the potential to change the level of effects on ecological receptors. The potential effects include changes in direct habitat loss, changes in indirect habitat loss and changes in the risk to protected species due to the larger rotor diameter.

The reduction of permanent land take is not significant enough to change the level of effect on habitat loss assessed in the original ES. Construction effects on direct and indirect habitat loss are therefore considered to be the same as the original ES, as is operational disturbance.

Given the low level of bat activity on this site and that any foraging activity was associated with permanent watercourses, it is considered that, prior to mitigation, there will be a negligible negative effect on bat populations. This is the same conclusion as the original ES.

Access track routes and turbine locations have been selected to ensure that there is no loss of existing hedgerows. The location of turbines has been designed to ensure that the sweep of the blades is at least 50m from hedgerows, trees and wet drains likely to be used by foraging bats.

Ornithology (Chapter 8)

The proposed amendments to the consented scheme have the potential to change the level of effects on birds. The potential effects include changes in the level of disturbance during construction, changes in direct habitat loss, changes in displacement due to the presence of operational turbines and changes in bird collision risk due to the larger rotor diameter.

The reduction of permanent land take is not significant enough to change the level of effect on habitat loss assessed in the original ES. Construction effects on direct and indirect habitat loss are therefore considered to be the same as the original ES, as is operational disturbance. There is no change from the original ES that is likely in the effect caused by disturbance due to the presence of operational turbines.

The collision risk for two species (Marsh Harrier and Golden Plover) is considered in light of the proposed amendments. Whilst there would be a slight increase in Marsh Harrier collisions, the assessment concludes that this would be negligible, as concluded in the original ES.

Golden Plover collisions are also likely to increase. However, in the VoC ES the collision risk analysis has been recalculated to take account of the actual final layout area, rather than just the larger developable area which was considered in the original ES.

Taking all factors into account the effect is considered to be minor adverse; the same conclusion as the original ES.

Noise (Chapter 9)

National planning policy has replaced the previous guidance on noise; however the best practice guidance for wind turbine noise remains the same (ETSU-R-97). Good practice guidance for ETSU has been published since the original application and this is incorporated into the VoC ES noise assessment.

As the original ES noise assessment was based on three different candidate turbines than those proposed in the Variation of Consent application, a revised noise assessment was considered appropriate.

The revised noise assessment demonstrates that for two turbine layouts the noise levels are below the consented noise limits at all wind speeds and for all receptors. For one layout, it is shown that it will be necessary to constrain some turbines at certain wind speeds, to ensure that levels are below the consented noise limits at all wind speeds and for all receptors.

Given the consented noise limits are already set out in the original consent (Condition 24) and that no amendments are proposed to the wording of this condition, all layouts have been shown to be able to comply.

Construction noise was also considered due to the realignment of part of the onsite access track. The overall impact of construction noise is considered to represent a negligible effect at all receptors except one property where it is considered to result in a minor and temporary effect.

All noise effects in the VoC ES are the same as those assessed in the original ES.

Miscellaneous (Chapter 10)

Hydrology

A revised Flood Risk Assessment which assesses the proposed site infrastructure changes is presented as part of the VoC ES.

The revised FRA demonstrates that, with mitigation, there will be no significant effects occurring as a result of the proposed changes.

The larger substation has been relocated into a more sensitive flood risk area, however compared to much of the site, it is located on relatively high ground. Essential electrical infrastructure will be raised at least 500mm above the 1 in 1,000 flood risk level, as consulted with the Environment Agency and Western Power Distribution.

There will be no other changes to the effects on hydrology as a result of the proposed amendments.

The revised Flood Risk Assessment concludes that the revised plans do not introduce any significant change that would impact overland flow conveyance through the site.

Transport and access

The only change to the original transport and access ES assessment is that the proposed larger rotor diameters will mean that larger blades will be required. A revised Swept Path Analysis was carried out to consider whether there would be any changes to the highways infrastructure in transporting the larger blades to site.

Four pinch points were assessed, two of which indicated that some street furniture may need to be temporarily removed to facilitate access. This is not considered significant and represents no change to the original ES predicted effect of minor.

Aviation

The proposed amendments to the physical characteristics of the development will not have any additional impact on aviation interests.

Ecotricity is proposing to amend the wording of Condition 5 of the original s.36 consent, to allow construction on parts of the site to start prior to final sign-off on the proposed radar mitigation scheme; however this has no bearing on the EIA for aviation.

Shadow flicker

Whilst Government policy has changed since the original ES, the guidance presented in the National Policy Statement for Renewable Energy Infrastructure remains the same.

This considers that the impacts of shadow flicker are limited to those receptors within 10 rotor diameters of a turbine. Given the proposed amendment to the rotor diameter from 90m to up to 103m, a revised shadow flicker assessment has been carried out.

This assessment indicates that two residential properties are now within the area that could potentially be affected by shadow flicker. This is a change from no residential receptors in the original ES.

Given the distances involved and the limited number of hours per year that shadow flicker could occur at the two properties, it is considered that the magnitude of impact would be minimal and that there would be an overall minor adverse effect prior to mitigation. The original ES determined the magnitude of impact as 'no change'.

Where the possibility of shadow flicker exists, mitigation can be enforced through the use of the condition already imposed on the existing deemed planning permission (which will not be amended). Ecotricity has proposed a mitigation scheme and, should shadow flicker occur, the mitigation shall be implemented so that the resulting impact will be not significant.

FURTHER INFORMATION

This Non-Technical Summary and the Variation of Consent Environmental Statement is available to download free of charge from www.ecotricity.co.uk/heckington-fen.

Hard copies and CD copies of the Variation of Consent Environmental Statement (including Figures, Appendices and the NTS) can be obtained by contacting Ecotricity at the address below at a cost of £250 per hard copy and £10 on CD.

The Development Team
Ecotricity
Lion House,
Rowcroft
Stroud
Glos
GL5 3BY

Email: heckington-fen@ecotricity.co.uk