

TRITON KNOLL OFFSHORE WIND FARM

2012
September

Keeping you informed



This image is not intended to represent the appearance of the proposed Triton Knoll Wind Farm

WELCOME

Welcome to our newsletter about the latest developments in the plans to develop the electrical system for the Triton Knoll Offshore Wind Farm. The electrical system will connect Triton Knoll to the national grid.

Even though the work on the electrical system is still very much in its infancy we are aware there is great interest in our plans so we hope this update is useful.

As we are still in the early stages of the project there are many details we do not yet know and more information will come in the future.

If you would like to provide feedback on either the project or this newsletter, we have a contact section on the back page.

We hope you find this update useful and we will produce further issues as the project develops.

Jacob Hain

THE STORY SO FAR

RWE npower renewables, one of the UK's most experienced wind farm developers, is proposing to build an offshore wind farm approximately 20.5 miles (33 kilometres) off the coast of Lincolnshire and 28.5 miles (46 kilometres) off the coast of north Norfolk.

The project has been split into two separate packages:

1. The offshore wind farm

This includes all the parts within the offshore site boundary:

- wind turbines
- meteorological masts
- offshore substations
- 'intra-array' cables linking the wind turbines with the offshore substation.

We have carried out detailed environmental assessments in and around the area of the offshore wind farm and carried out a consultation with local communities and key stakeholders.

In January 2012, we submitted a planning application to the Infrastructure Planning Commission (whose functions have now been transferred to the Planning Inspectorate). The Planning Inspectorate will now examine this application, in consultation with the public and statutory bodies.

2. The electrical system

This includes:

- onshore substation
- onshore cable route and electrical infrastructure
- offshore export cable route.

In April 2009, we had an offer from National Grid to connect the proposed Triton Knoll Wind Farm to the existing electricity network within the District of East Lindsey, Lincolnshire.

However, in December 2010, National Grid undertook a strategic review of grid connections across the east coast, which

included the connection location for Triton Knoll.

The review resulted in a new National Grid connection offer for Triton Knoll to the existing substation at Bicker Fen, south west of Boston, Lincolnshire. National Grid's offer is based on cables that go under the sea and underground between Triton Knoll and the Bicker Fen substation. These would export the power generated by the offshore wind farm into the existing national electricity grid.

THE ELECTRICAL SYSTEM – OUR OPTIONS

To connect an offshore wind farm to the electricity network, electrical infrastructure will be needed both onshore and offshore. For Triton Knoll, this is likely to include:

- offshore cables running from the offshore wind farm to land on the Lincolnshire coast and underground cables running from the landfall to the connection location at Bicker Fen
- an electrical substation in the vicinity of the existing Bicker Fen substation
- an onshore compound is also likely to be required along the cable route depending on the cable technology used.

CURRENT WORK

To find the best potential sites and routes for the electrical infrastructure, we have begun onshore and offshore environmental and engineering studies in the area shown in the map below.

These initial studies are helping us to narrow down the site and route options and will continue throughout 2012. We are also consulting with organisations such as the local planning authorities, the Marine Management Organisation and Natural England.

Once we have evaluated the different options, we will carry out consultation with public bodies, local communities and other interested parties. We will then use the results of this consultation to inform our final planning application for the electrical system.

We are currently undertaking technology studies to understand what the electrical system will comprise.

We have two options to connect the offshore wind farm to the existing electricity network available to us at present which are:

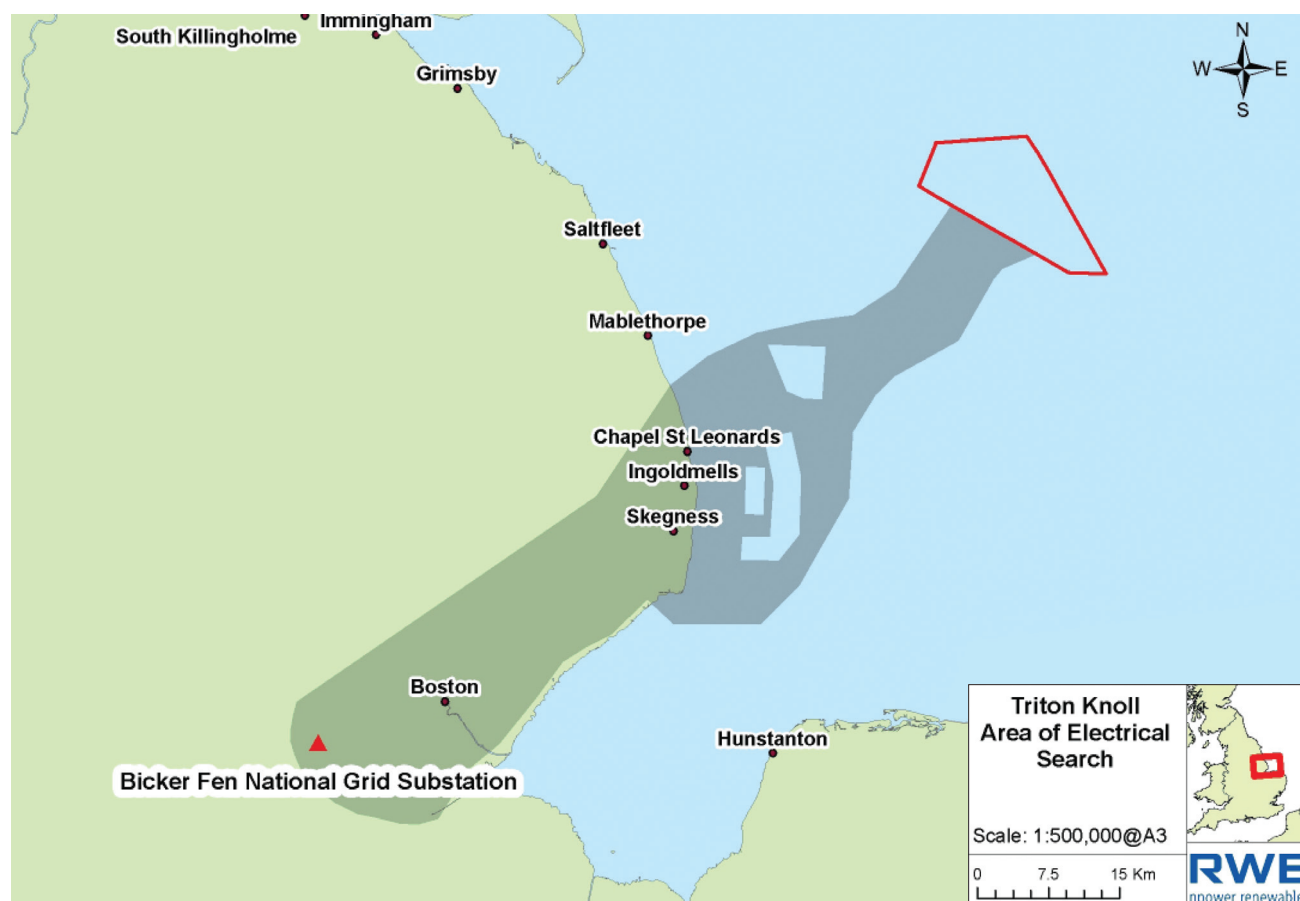
Option 1: AC (alternating current) technology

- up to 8 electrical circuits offshore and onshore
- an onshore underground cable corridor up to 60m wide for construction
- substation in the vicinity of Bicker Fen of up to 20 hectare site footprint
- single compound at a point along the cable route which would have a site footprint of up to 3 hectares.

Option 2: DC (direct current) technology

- up to 3 electrical circuits
- an onshore underground cable corridor up to 40m wide for construction
- substation in the vicinity of Bicker Fen with an indicative area of 8 hectare site footprint
- likely requirement for a converter station onshore; footprint unknown at this stage
- likely up to 8 electrical circuits offshore.

Please note these options, above, will be the subject of further engineering and design work.



The area of search for the electrical system infrastructure is shown on the map above

FREQUENTLY ASKED QUESTIONS

Jacob Hain, Project Manager for Triton Knoll Offshore Wind Farm, answers some recently asked questions on the proposed cables which could connect the offshore wind farm to the National Grid connection at Bicker Fen, just outside of Boston. The questions and answers are also available on our website and will be updated as more questions are asked.

Why can't you bring the cables offshore through the Wash?

We have thoroughly investigated the possibility of laying the offshore cables from the wind farm through the Wash and onto the shore. An engineering study has shown there would be significant construction and operational challenges in the few remaining areas not already in use by other developments due to the changeable nature of the seabed in that area.

As a responsible developer we have also undertaken an environmental appraisal of the Wash area and carried out consultations with Natural England, the local fishing industry and local ports. Following this, it is our opinion that due to environmental designations, the cumulative impact on the local fishing industry and the significant technical challenges that would need to be overcome to be sure of successful installation, routing offshore cables through the main part of the Wash area is not a feasible option for the Triton Knoll project. It has therefore been discounted from our area of search for the electrical infrastructure.

How long is the cable route?

The onshore cables, which would run from the Lincolnshire coast to the connection location at Bicker Fen, could



North Hoyle Offshore Wind Farm. Image supplied by npower renewables © Norman Childs Photography. Images in this newsletter are not intended to represent the appearance, size or scale of the proposed Triton Knoll Offshore Wind Farm.

be between 50 to 60 kilometres (km) in length. We are currently working within an area of search (see map on page 2) to identify and review options to ensure we select the best route.

How wide will the cable route be?

We require a cable route which has a maximum width of 60 metres (m). When we assess a potential route, we will study a corridor which is a maximum of 1km wide. The feedback from landowners, the results of ecological surveys and engineering feasibility work in the study area will inform the selection of the 60m wide route within this corridor. Therefore the cable route will not be 1km wide.

Many other criteria will be taken into account to select the route, such as distance to houses, cultural heritage assets, places of archaeological interest and environmental and landscape designations. No decision has yet been made and we have contacted landowners to enable ecological surveys to take place to inform the selection process.

Will farmers still be able to farm over the cable route?

The cables will be buried to a depth that allows normal farming to continue once the ground is reinstated. We will ensure that the contractor undertaking the work will seek to install the cables in such a way as to minimise any long term affects on the land or to drainage systems.

Farmers will receive a one-off compensation payment for allowing

us to install underground cables on their land and will continue to be able to farm the land as before. As with similar underground infrastructure projects, there will be restrictions on the use of land above the cables. For example, buildings would not be able to be constructed over the cables, and deep-rooted plant species will not be able to be planted within a certain distance of the installed cables.

BENEFITS OF TRITON KNOLL

- if constructed, Triton Knoll could present an exciting opportunity for UK industry which has the potential to create opportunities for jobs and economic benefits
- every year, Triton Knoll would prevent the release of hundreds of thousands of tonnes of polluting carbon dioxide gas
- Triton Knoll would generate home grown energy which would help the UK become less reliant on imported energy
- whilst we follow current legislation and go through a competitive tender process, local suppliers and contractors with appropriate skills are often well placed to win contracts.
- to date, we have placed survey contracts with vessel operators in the Greater Wash that exceed approximately £5 million in value. Investment will continue to increase in the area during the development of the project.

FREQUENTLY ASKED QUESTIONS CONTINUED

Will the cable route affect the local ecology?

Due to the temporary nature of the disturbance that will be caused by the installation of the cables, we consider it highly unlikely that the cable route will have a significant or long term impact on the local ecology. There are a number of designated areas and protected species to consider both onshore and offshore which will affect the decisions on where to route the cables. These are protected either under European or UK law. We will be required to assess any potential effects the electrical infrastructure could have on these species or habitats.

We are currently undertaking environmental surveys to identify the distribution of these species and habitats and these will continue next year. The findings will inform the selection of sites and routes for the infrastructure.

Will you take local residents into account when looking at potential options for the cable route?

The cable route will be located away from houses wherever reasonably possible, to minimise disturbance to local residents during the construction activities. We would assess any potential impact on residents and put in place mitigation measures, if required, during construction. This could be, for example, different methods of construction or noise protection during installation.

Traffic and access assessments could be carried out once a potential route is identified to minimise traffic disruption and impacts on local roads.

It is important to note that the majority of potential effects from a cable route are only likely to occur during the construction process. The construction process is temporary and will be managed carefully to ensure that any disturbance is kept to a minimum as far as is reasonably possible.

Would other wind farms be able to connect to Triton Knoll's cables or substation?

The cables, substation and any other infrastructure will be designed to only carry the power generated by Triton Knoll Offshore Wind Farm and connect it to the national electricity network. We have no intention to oversize equipment and it will be impossible for other projects such as onshore wind farms to connect into the Triton Knoll electrical system.

When will you be able to provide more information on where the infrastructure could be located and what it will consist of?

We hope to be able to provide more information on the different options open to us early next year. We are currently carrying out environmental, technical and engineering studies to identify what the electrical infrastructure could comprise and where it could be located. Once these studies are concluded we will be in a position to give more information and consult on our findings.

Will local residents have a chance to comment on the proposed work before it is finalised?

We will engage with the public through meetings and exhibitions when our technical and engineering studies have concluded. This will give us more certainty on the options available to us for all components of the electrical infrastructure. Local residents will be given the opportunity to comment on the proposed work and planning application for the onshore package before it is finalised.



NEXT STEPS

We will continue to progress our environmental and engineering studies to identify suitable sites and routes for the electrical infrastructure and to select the technology that will be used to

connect the offshore wind farm to the electricity network. As this work progresses, we intend to hold information days to discuss the project with local communities.

If you would like this newsletter in larger print or in another format, please contact us on: 01793 474100

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