

From: [Nick Feltham](#)
To: [Triton Knoll Electrical System](#)
Cc: [Vanda Pollard](#); [Mark Williets](#); [Jonathan Henson](#)
Subject: 151005 EN020019 North Kesteven DC - Local Impact Report and Written Representations
Date: 05 October 2015 17:13:08
Attachments: [Written Representations.docx](#)
[LIR.docx](#)
[Written Representations - summary.docx](#)

Dear Sir, Madam

Please find enclosed North Kesteven District Council's Local Impact Report and Written Representations in relation to the DCO application for the Triton Knoll Electrical System.

Consistent with the request within Annex D of your letter dated 30th July 2015, the District Council wishes to express its interest to attend and if necessary be heard at the open floor hearing/s in relation the landscape and visual and noise impacts of the proposed substation. The District Council's response to the ExA's first written question on the landscape and visual impact of the proposed substation is contained within the attached Written Representation.

Please do not hesitate to contact me if you need to discuss anything further,

Regards

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NORTH KESTEVEN DISTRICT COUNCIL

Planning Act (2008)

**Application by Triton Knoll Offshore Wind Farm Limited for an Order Granting
Development Consent for the Triton Knoll Electrical System**

Summary of Written Representations on behalf of the District Planning Authority

5th October 2015

Planning Inspectorate Reference: EN020019

District Planning Authority Reference: 10031767 and 15/0763/NSIP

1.0 Introduction

- 1.1 The Council notes the proposals by Triton Knoll Offshore Wind Farm Ltd to develop the Triton Knoll Electrical System, in order to connect the Triton Knoll Offshore Windfarm to the existing National Grid substation at Bicker Fen, Lincolnshire. As identified within the accompanying Environmental Statement and associated documents, the Council notes that all proposed works associated with the Development Consent Order (DCO) that is being sought are located outside of the District boundary.
- 1.2 The District Council's primary interest in this case is in relation to the proposed construction of the AIS/GIS substation noted on the drawings relevant to 'Work No 50A'. Unless otherwise stated, any comments made in relation to 'the development' or 'site' therefore relate to the proposed substation only.
- 1.3 As stated through its 'relevant representations' and in response to both the Scoping Report and Preliminary Environmental Information report (PEIR), the Council's primary interest in this case relates to landscape and visual impacts and noise/vibration.
- 1.4 In relation to **landscape and visual impact**, the Council's adopted Landscape Character Assessment (LCA) highlights a number of key characteristics for the Fenland character area, (which is the closest adjoining character area to the substation within North Kesteven District) including a low lying and generally flat relief, very large arable rich fields divided up by drainage channels, generally extensive vistas to level horizons and huge skies, sparse woodland cover though some occasional trees surrounding farmsteads and some shelter belts.
- 1.5 The Council accepts that, from VP 11, the substation would be viewed against a backdrop of wind turbines and electricity infrastructure, which are detractors within the local landscape. Nevertheless, without knowing whether the substation will be gas or air insulated, and what the likely internal composition of buildings, plant and machinery will be (this being a significant amount of detail reserved by draft Requirement 5), it is difficult to ascertain whether a 'minor adverse' rating is accurate or whether this should be upgraded to minor/moderate.
- 1.6 With reference to **noise and vibration**, Chapter 11 Table 11-18 sets out a comparison of operational noise levels at Drove Farm with Defra/University of Salford (UoS) low frequency noise criteria, including low frequency noise criterion. Table 11-18 highlights that at the 100hz level, predicted external operational noise would be 41dB (Linear). This exceeds the corresponding 100Hz Defra/UoS criterion by 3dB. Table 11-18 also suggests a predicted internal noise level of 36dB through applying an assumed 5dB reduction from outside to inside.
- 1.7 However, transmission losses from external to internal areas can vary depending on variables such as the construction method of the property in question, and in this case, if a 5dB external to internal reduction is applied, the predicted internal noise

level at Drove Farm is only satisfied by 2dB. On the basis of the relatively marginal threshold for compliance at 100Hz at Drove Farm, the Council raises concern that insufficient information has been presented to justify the transmission loss applied from external to internal areas, based upon the specific nature and construction of the property at Drove Farm. There is nothing apparent within either Chapter 11 itself, or the accompanying baseline surveys and model results, which provides such details.

- 1.8 The Council also considers that additional information could have been provided in relation to alternatives to the internal layout and arrangement of the substation, to assess whether scope would exist through detailed design proposals to provide additional mitigation of landscape/visual and noise impacts. As such, the Council considers that the requirements of the Environmental Impact Assessment (EIA) Regulations insofar as they relate to the consideration of alternatives, may not have been fully addressed.
- 1.8 The Council raises no specific concern in relation to other matters including flood risk, traffic and transport, cumulative impacts, the historic environment and residential visual amenity. The Council does however make recommendations regarding a number of the draft Requirements, namely 14 (and/or 18), 15, 16 and 17.

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- 1.2 The District Council's primary interest in this case is in relation to the proposed construction of the AIS/GIS substation noted on the drawings relevant to 'Work No 50A'. Unless otherwise stated, any comments made in relation to 'the development' or 'site' therefore relate to the proposed substation only.
- 1.3 As stated through its 'relevant representations' and in response to both the Scoping Report and Preliminary Environmental Information report (PEIR), the Council's primary interest in this case relates to landscape and visual impacts and noise/vibration. These matters are considered in further detail in sections (3) and (7) below. In addition however, the District Council wishes to make a number of secondary comments, some of which were highlighted under topic headings within the Council's 'relevant representations' response, and some of which are supplementary. However, given the relatively minor nature of those supplementary comments, it is hoped that these can still be taken account of in aiding the Examining Authority's assessment of the proposed Order.

2.0 Site Selection and Alternatives

- 2.1 The Council notes that the DCO application is accompanied by detailed chapters which assess a number of landfall and cable route options, as well as a four zones highlighted as being shortlisted for the erection of the substation. The 'blue zone' has been selected, and detailed evidence provided to justify this selection. Whilst the Council offers no commentary on the merits of this wider site selection process, it considers that additional information could have been provided relating to alternatives to the siting of plant, machinery, equipment and buildings within the proposed substation area itself.
- 2.2 It is noted that, at the present time, the final selection of either an AIS or GIS substation has not been determined. The Environmental Impact Assessment recommends that a Requirement can be applied which deals with this issue. However, other than through an outlined visual representation within the LVIA photomontages, and brief commentary on the range of building, plant and equipment heights associated with the AIS or GIS options, no details have been provided to illustrate whether a range of scenarios had been considered or developed for the internal substation layout to minimise both landscape and visual and noise and vibration impacts.
- 2.3 Page 11-21 of the ES ('noise and vibration') recommends that due attention should be given to the siting of noisy items of plant and equipment within the substation, where flexibility exists. Whilst noting that a 'worst case scenario' has been modelled for the purposes of the noise assessment, the Council would have expected that for the scale

of the substation area footprint proposed, further presentation and assessment of realistic internal layout alternatives could have been provided to give added weight to the ES's overall conclusions (in particular on landscape and visual impact, and noise). Therefore, as submitted, the Council considers that the 'site selection and alternatives' discussion within the ES does not fully comply with Schedule 4, Part 1(2) and Part 2(4) of the Environmental Impact Assessment Regulations.

3.0 Landscape and Visual Impact (including response to Examining Authority Question LV 1.24)

- 3.1 Whilst the proposed development site lies outside of the North Kesteven District boundary, the landscape characteristics of the site are essentially the same as those within the immediately adjoining 'Fenland' North Kesteven Landscape character area, which terminates on the western side of the South Forty Foot Drain. The Council's adopted Landscape Character Assessment (LCA) highlights a number of key characteristics for the Fenland character area, including;
- A low lying and generally flat relief
 - Very large arable rich fields divided up by drainage channels
 - Generally extensive vistas to level horizons and huge skies
 - Sparse woodland cover though some occasional trees surrounding farmsteads and some shelter belts
 - Prominent power lines and large scale agricultural buildings
- 3.2 Paragraph 9.1.11 of the Council's LCA highlights that industrial and commercial uses are largely absent within the Fenland sub-area, however like other parts of the District the impact of electricity infrastructure is also significant with rows of pylons very dominant within the landscape. Page 99 of the LCA highlights a number of pressures for change and opportunities for enhancement within the Fenland landscape character area, with pressures for change including 'large scale agricultural buildings and storage of agricultural machinery' which can be 'very prominent in the open landscape'. Reference is also made to inappropriate species such as Leylandii having been used to screen existing buildings, and which creates an incongruous feature within the landscape)
- 3.3 The Council notes that for the purpose of Landscape and Visual Impact assessment (of the substation) the study area has been previously agreed with Boston Borough Council. Viewpoints (VP) 9-11 are of most relevance to North Kesteven. In relation to landscape and visual impacts associated with construction, we note that VP 9 and 10 are deemed to be of high susceptibility and with a negligible degree of change leading to a negligible impact that is not significant (for the purposes of EIA). VP 11 is stated as having a high susceptibility, low degree of change resulting in a minor adverse impact that is not significant.
- 3.4 In terms of operational impacts, paragraph 2.587 notes that the substation will be viewed as a cluster of development alongside the existing electricity infrastructure and wind turbines, (the former being acknowledged within the Council's LCA), resulting in a minor adverse, not significant, impact for VP 11. It is stated that upon maturity of landscaping at year 15, the effects are reduced to neutral/not significant.

- 3.5 The Council accepts that, from VP 11, the substation would be viewed against a backdrop of wind turbines and electricity infrastructure, which are detractors within the local landscape. Nevertheless, without knowing whether the substation will be gas or air insulated, and what the likely internal composition of buildings, plant and machinery will be (this being a significant amount of detail reserved by draft Requirement 5), it is difficult to ascertain whether a 'minor adverse' rating is accurate or whether this should be upgraded to minor/moderate.
- 3.6 The Council's LCA specifically highlights that key characteristics of the Fenland LCA include the prominence of large scale agricultural buildings set within a context of limited landscaping cover and vast skies. Within this context, whilst photomontages give an indication of the likely visual impact of the AIS and GIS options, given the amount of detail reserved by Requirement, rather than presented with the DCO application (including indicative proportions of the site to be occupied by buildings, plant and equipment), in the Council's view it is difficult to whether the overall conclusion of 'minor adverse' is accurate. Either way, the Council does agree that the proposals will result in an adverse impact.
- 3.7 In addition, given the references within the LCA to the incongruous nature of some of the existing shelter planting within the Fenlands character area, and the general absence of significant screening, unless careful regard is had to the selection of appropriate soft landscaping species, the matured landscaping belt around the (up to) 8ha site could itself represent a stark feature within the landscape. As such, the applicant's assessment of 'neutral' impact at Year 15 is also queried.
- 3.8 We agree with the projects highlighted for Tier 1 -3 cumulative assessment and note that the Heckington Fen windfarm has been excluded from assessment as it falls outwith the 3km search area. On balance, and on the basis of the views provided from VP11 in particular, we consider that this is acceptable given the separation distance involved, and respective locations and scale of the developments (notwithstanding the above comments).
- 3.9 With reference to lighting, we note that under normal operating conditions external lighting will not be required at night unless dictated by exceptional circumstances such as associated with equipment outages or repairs. The Council agrees that details of lighting can be addressed through imposition of a Requirement, and we note Draft Requirement 15. Whilst the District Council notes that the wording of the draft Requirement may give sufficient scope, it considers that details of the hours of illumination, and the means of their control, should be provided, and the Examining Authority may wish to consider minor wording revisions in this regard.

4.0 Flood Risk

- 4.1 Chapter 7 of the ES identifies that the proposed substation site is located within within Flood Zone 3. Page 7-14, table 7-5 does not refer to the adopted North Kesteven District Council Strategic Flood Risk Assessment (SFRA) and therefore it is not known whether this document has been reviewed as part of the preparation of the ES or whether the embedded flood risk mitigation measures referred to in table 7.10 page 7-26 have been informed by the Council's SFRA. Whilst the development proposals are

not within the North Kesteven District, the SFRA highlights that the area immediately to the west of the South Forty Foot Drain is located within the 'Fens Flood Hazard Zone'.

- 4.2 Paragraph 15.56 of the SFRA notes that the greatest source of flood risk is from overtopping or a breach of the flood defences within the Fens area, which includes the embanked South Forty Foot Drain. Paragraph 15.60 of the SFRA notes that, allowing for freeboard, the River Witham flood defences in the lower Witham Fens are not provided to a 1:100 year standard, and that the annual probability of flooding varies across the Fens from between 1%-5%. The closest part of the Lower Witham Fens Study Area to the site is shown as having a flood hazard mapping rating of 'danger for some'.
- 4.3 The Council makes no comment as to the scheme's compliance with the flood risk sequential test as required by both the NPPF (paragraph 100) and saved North Kesteven Local Plan policy C10 (nor the flood risk mitigation measures proposed) save to note that four substation locational options have been presented and the associated technical and planning discussed by the applicant. We would defer to the Environment Agency and Internal Drainage Boards for comments as to the adequacy of the embedded flood risk mitigation measures proposed, and the Lead Local Flood Authority (Lincolnshire County Council) on surface water drainage matters.
- 4.4 However, as above, the Council highlights concerns that in their opinion alternatives to the internal layout of the substation area have not been fully evidenced, and which *may* have included options to site the most vulnerable plant and equipment within any comparatively lower risk parts of the substation site (accepting however the topography/levels within the site).

5.0 Historic Environment

- 5.1 As part of its response to the PEIR and Scoping Report, the Council advised that clarity on the reasoning behind the selection of 3km as an appropriate search buffer (around the substation site) for the assessment of heritage impacts. Whilst Chapter 8 of the ES points simply to this being a matter of professional judgement, given the stipulated range of building, plant and equipment heights, this is considered appropriate. There are no designated heritage assets within this buffer zone within North Kesteven District.
- 5.2 Whilst the Council has not yet produced a list of non-designated heritage assets within this part of the District, it is considered that were such assets present within the 3km search area (which may include for example, farmsteads still present as noted on original OS Mapping in the late 1800's), then any harmful impacts to the setting or significance thereto would be countered by the presence of existing nearby landscape detractors including Bicker Fen windfarm and associated substation.

6.0 Residential Visual Amenity

- 6.1 The area of the proposed substation is substantial, and the site components (comprising buildings, masts and electrical plant and equipment) have a range of heights; mostly notably the substation building/s which will be up to 14.5m above existing ground level (depending on the selected technology and implement flood risk mitigation measures). However, given the separation distance to the closest sensitive receptors within North Kesteven District (the occupants of White Drove Farm around 680m to the west), it is considered that the erection and operation of the substation will not be read as unduly overbearing to the detriment of residential visual amenity.
- 6.2 It is noted that the raised embankments of the intervening South Forty Foot Drain will provide some visual mitigation and screening of lower level plant, equipment and buildings within the substation. Furthermore, when viewed from Drove Farm, to the west, the substation area will be read against a grouping of wind turbines, the existing Bicker Fen substation and electricity transmission pylons, which are existing visual detractors within the local landscape. As such, in the Council's opinion, the proposals would not constitute an unacceptable impact on the grounds of residential visual amenity

7.0 Noise and Vibration

- 7.1 Consistent with the request made in its response to the Scoping report, and subsequently the Preliminary Environmental Information report, Chapter 11 of the Environmental Assessment (Noise and Vibration) incorporates details of low frequency noise associated with the proposals. The District Council agrees with the inclusion of Drove Farm as both a background noise monitoring location and noise sensitive receptor – this is the closest property within North Kesteven District to the proposed substation site.
- 7.2 Table 11-18 sets out a comparison of operational noise levels at Drove Farm with Defra/University of Salford (UoS) low frequency noise criteria, including low frequency noise criterion. Where predicted internal low frequency noise levels exceed those criterion, the indication is that those levels could cause an adverse reaction to occupiers.
- 7.3 Table 11-18 highlights that at the 100hz level, predicted external operational noise would be 41dB (Linear). This exceeds the corresponding 100Hz Defra/UoS criterion by 3dB. Table 11-18 also suggests a predicted internal noise level of 36dB through applying an assumed 5dB reduction from outside to inside. However, transmission losses from external to internal areas can vary depending on variables such as the construction method of the property in question.

In this case, if a 5dB external to internal reduction is applied, the predicted internal noise level at Drove Farm is only satisfied by 2dB.

- 7.4 On the basis of the relatively marginal threshold for compliance at 100Hz at Drove Farm, the Council raises concern that insufficient information has been presented to justify the transmission loss applied from external to internal areas, based upon the specific nature and construction of the property at Drove Farm. There is nothing apparent within either Chapter 11 itself, or the accompanying baseline surveys and model results, which provides such details. Therefore, at the present time, the District Council cannot agree with the overall findings presented in relation to operational noise impacts at Drove Farm.

7.5 The Council notes that draft Requirement 17 suggests that overall operational noise immissions from the substation should be limited to 35dB, to include any relevant penalties for tonal or impulsive noise. Whilst the Council would in principle support such a limit being imposed, on the basis of its concerns highlighted in paragraphs 7.3 and 7.4 above it is unclear as to how this limit would be met, in the absence of any further information and confidence on the actual external to internal transmission reductions that would be applied at Drove Farm.

8.0 Traffic and Transport

8.1 As highlighted above, it is noted that no highway routes associated with the erection of the substation are expected to experience 10% or greater increases in traffic flows during construction, and as such that noise impacts associated with construction vehicle movements (in particular along the A17 and A153 within North Kesteven) are predicted to be limited to 'minor adverse'.

8.2 Chapter 9 of the ES confirms that the new permanent access to serve the substation will be required as an early phase of development, and therefore a temporary construction compound (TCC 24) will need to be provided on site to enable the erection of the permanent access road. Paragraph 9.107 of the ES suggests that TCC 24 will be sited adjacent to the A17, the precise details of which are unknown at this stage. The Council agrees that in principle an access management plan could be provided through imposition of a Requirement, as necessary.

8.3 However, Figures 9.9 to 9.13 suggest that TCC's 22 to 24 may be located close to the North Kesteven District boundary. The Council will be concerned to know the precise locations of those TCC's, and associated traffic management and noise mitigation measures, to ensure that any residual impacts on the amenity and safety users of the road network through the District are adequately protected throughout the construction process. We would also defer to Lincolnshire County Council as highways authority on this matter.

9.0 Cumulative Impacts

9.1 The Council notes the references within the Environmental Statement and associated documents to the Viking Interceptor (VI) project, and that very limited weight should be ascribed to any associated cumulative impacts given the current status of that project. The District Council agrees with this approach, however that it will be incumbent on any future DCO application associated with the VI to take account of the Triton Knoll Electrical System project, along with the planned Heckington Fen (windfarm) Grid Connection proposals.

9.2 In this regard, the District Council considers that the Tier 1-3 projects cited in the Environmental Statement and accompanying documents, (insofar as they relate to cumulative impacts of known projects either within or adjoining the District), are

acceptable. As highlighted above in relation to Landscape and Visual Impact, this includes the decision to exclude the Heckington Fen windfarm from cumulative assessment on the basis of its separation distance from the site of the proposed substation, and the scale of buildings proposed within the substation area.

10.0 Draft DCO Requirements

- 10.1 Having regard to the draft Requirements set out Part 3 of the 'Draft Development Consent Order and Deemed Marine Licence', the District Council would comment as follows:

Draft Requirement 14 and 18 – the District Council considers that either draft Requirement 14 or 18 should include reference to construction traffic routing and any prohibited routes, along with the means by which such restrictions may be enforced.

Draft Requirement 15 – whilst the District Council notes that the wording of the draft Requirement may give sufficient scope, it considers that details of the hours of illumination, and the means of their control, should be provided.

Draft Requirement 16 – the District Council's default guideline construction hours of operation (for noise generating works) are 07.30am to 18.00pm Monday to Friday and 08.00am to 13.00pm on Saturdays with no Sunday or Bank Holiday working and we would request that the Examining Authority have regard to this in the consideration of this Requirement.

Draft Requirement 17 – as noted above, the requirement suggests that overall operational noise immissions from the substation should be limited to 35dB, to include any relevant penalties for tonal or impulsive noise. Whilst the Council would in principle support such a limit being imposed, on the basis of its concerns highlighted in paragraphs 7.3 and 7.4 above it is unclear as to how this limit would be met, in the absence of any further information and confidence on the actual external to internal transmission reductions that would be applied at Drove Farm.

- 10.2 The District Council has no comments on the remaining draft Requirements, however would wish to be consulted upon details that may be submitted in relation to draft Requirements 5 (3)a, 6 (1) and (2)a and (2)b, 14 (2)f and 2(i), 15, 17 and 18.

11.0 Conclusions

- 11.1 With reference to the above issues, the District Council's primary concerns in this instance relate to landscape and visual impacts, the consideration of alternatives and noise. In relation to the former, the Council considers that the 'minor adverse' and 'neutral' impacts (pre-and post-landscaping maturity) for VP 11 not wholly justified in the absence of further information on the likely composition of the substation area. For the same reason, the Council considers that further consideration could have been given to alternatives; specifically more detail of the internal arrangement of the substation to include confirming the likely extent of built development within the site associated with the AIS or GIS options. This may have then presented further clarity on the relative landscape and visual and noise impacts associated with both options, and whether or how the internal layout could be modified to reduce any overall impact.

11.2 Finally, the Council wishes to raise a specific concern in relation to insufficient information provided to support the overall conclusions on low frequency noise impacts to Drove Farm. The 100Hz predicted internal noise level for Drove Farm is close to the associated threshold, and relies upon an assumption of a 5dB external to internal transmission loss. The Council considers that a property-specific assessment should be provided to provide greater clarity and comfort that operational noise from the substation will not result in adverse residential amenity impacts to the occupiers of this property.