

**WRITTEN SUBMISSIONS for the Applicant on
AVIATION SAFETY ISSUES**

DORENELL LTD: THE APPLICANT

in relation to a Public Inquiry into the proposed Dorenell Wind Farm

S. 36 ELECTRICITY ACT 1989

THE TOWN & COUNTRY PLANNING (APPEALS) (SCOTLAND) REGS 2008

Aviation Safety Issues

NATS have now formally withdrawn their objection as seen in the letter dated 7 September 2010 at Appendix 1. However, in compliance with the Procedural Note dated 29 July 2010, we provide the further written representations requested by the Reporter on aviation safety issues as set out below.

The Applicant's consultants, Pager Power Aviation Studies, provided technical advice and assistance throughout the negotiations with NATS. Pager Power resolves radio, TV and radar interference issues for wind farm developers and consultants using bespoke GIS Aviation Risk Data software products. The company resolved its first wind farm objection from Prestwick Airport in November 2002 and has subsequently helped resolve hundreds of potential wind farm interference issues, both in the United Kingdom and overseas. The Black Law and Whitelee wind projects in central Scotland have both been built following successful input from Pager Power, with the Whitelee site using a radar mitigation solution designed by Mike Watson. Mr Watson was the key Pager Power consultant on the Dorenell wind project and he has over 10 years experience as a Chartered Engineer, holding a degree in Electronic, Computer and Communications Engineering from the University of Bradford.

Negotiations with solicitor Bernard Ralph of NATS and Lee Gordon of DLA Piper on a Statement of Common Understanding and a Contract for Sale of Consultancy Services were undertaken by Jennifer Ballantyne and Gary McGovern, solicitors of McGrigors LLP. Biggart Baillie LLP were unable to advise the Applicant on these matters due to a perceived conflict of interest by NATS.

1. Responses to the objection lodged by National Air Traffic Systems ("NATS"), including details of the measures being discussed between the applications and NATS to mitigate proposals

The proposed development of 59 turbines is located within range of two NATS En Route Limited ("NERL") Primary Surveillance Radar ("PSR") at Perwinnes, north of Aberdeen and Allanshill, south west of Fraserburgh. 24 of the turbines are in the line of sight of the radar at Allanshill and none of the turbines are in the line of sight of the radar at Perwinnes. A chronology of negotiations between the Applicant and NERL is set out below:

- In September 2007, NERL released a Technical and Operational Assessment, commissioned by the Applicant, of an 88 turbine layout, showing that 45 of the turbines would affect the Allanshill radar and none would affect the Perwinnes radar. In this assessment, NERL's Technical and Operation Safeguarding teams confirmed that the proposed development had been examined and NERL "*would be likely to object*" to the development, due to conflict with safeguarding criteria at that material time.

For the avoidance of doubt, the Applicant accepts that the turbines visible to the Allanshill radar are likely to have a technical effect upon it, causing radar returns on connected radar screens in the area of the proposed development.

- In November 2007, at a meeting with the Applicant, taking account of the fact that the main radar used in the area of the wind farm was Perwinnes, as opposed to Allanshill, NERL confirmed that with the use of conditions, the technical effects of the turbines

could be operationally acceptable in this particular area, provided that only the Allanshill radar was to be affected by the proposed turbines. In this regard, assurances were made that no turbines would be erected until both radar had been upgraded as part of NERL's ongoing upgrading programme. In addition, at this time, NERL contemplated relocating Perwinnes radar and required certainty that the radar would not be affected in its possible new location.

- In April 2008, NERL confirmed that due to the uncertainty of whether Perwinnes radar would be relocated, any assessments should take account of the radar's current position.
- On 2 May 2008, taking account of Perwinnes' existing location, the Applicant's aviation consultant, Pager Power, provided a report that confirmed the following:
 - The existing Perwinnes radar or its replacement, if as expected the replacement is in the same location, will not be affected by the proposed turbines.
 - The Allanshill radar will only be affected by 24 turbines, rather than 45.
 - The turbines will be built after both the Perwinnes and Allanshill radar have been replaced.
- On 13 November 2008, following further discussion and information provided at a meeting between NERL and the Applicant, it was confirmed that *"the operational impact of the development should be acceptable to NATS."*
- On 9 May 2008, responding to the above Pager Power report, NERL confirmed that they had reviewed it and agreed with the conclusions made.
- On 19 May 2008, NERL also wrote to the Energy Consents Unit confirming that should the Applicant guarantee similar conditions to those discussed in the minutes of the above November 2008 meeting, the remaining objection could be mitigated accordingly.

2. Responses to the conditions proposed by the applicants (through Pager Power Aviation Studies) in their e-mail to the Energy Consents Unit, dated 11 August 2008 (Ms Wallace)

On 11 August 2008, the Applicant proposed the following planning conditions to satisfy NERL's requirements;

- **Condition 1:** No wind turbine rotor shall turn and no electricity shall be generated before 1 May 2011.

Reason: *To ensure that the NATS radar at Allans Hill is not impacted by turbines prior to commissioning of new radar at Allans Hill and Perwinnes.*

- **Condition 2:** The developer shall provide written notification to NATS En-Route Ltd that the wind farm is to become operational at least three months before the first wind turbine becomes operational.

Reason: *To ensure NATS Air Traffic Controllers are prepared for the wind farm impact on the Allans Hill radar.*

It is understood that these conditions were acceptable to NERL from a technical and operational perspective, but could not be agreed without input from NERL's external legal advisers. In addition, the applicant was asked to cover the legal costs associated with this. However, the Applicant was uncertain whether it was appropriate to cover the legal costs of a statutory consultee and therefore decided to put the NERL issue on hold whilst other issues were addressed.

- In July 2009, at a meeting between NERL and the Applicant, it was stated that the technical effects of the proposed development would not be acceptable and mitigation would be required. This change from the previous position was understood to be as a result of a change in NERL's policy towards wind development, as opposed to any technical or operational change associated with this project or wider change in the knowledge of the effects of wind turbines on radar systems.
- From January 2010, several meetings and e-mail correspondence have taken place between the Applicant and NERL. The Applicant still agrees that the proposed development will have an effect on radar and a satisfactory technical mitigation solution exists for eliminating the effects of the proposed turbines on NERL's radar screens.

This technical mitigation solution has been identified by NERL ensuring that the Allanshill radar output does not feed into the combined radar picture by blanking it from the immediate vicinity of the turbines that will affect it. This can be implemented by blanking the turbines at the radar itself, preventing radar data from the turbine locations being communicated to the Prestwick Area Control Centre, or configuring radar data processing equipment to ignore Allanshill radar returns in the vicinity of the turbines. At the 13 November meeting, the Applicant agreed to pay NERL's reasonable technical mitigation costs and NERL indicated that these costs were likely to be in the region of £10,000.

Contractual arrangements for funding NERL's mitigation costs have been agreed within a Contract for Sale of Consultancy Services between NATS and the Applicant signed on 7 September 2010.

2.1 Details of the measures being discussed between the applications and NATS to mitigate proposals

2.1.1 Notwithstanding the above, the parties have had positive discussions - both before and in the period since NATS lodged its formal objection - which has led to:

(1) the identification of a potential mitigation solution to the perceived impact of the Development which addresses NATS' concerns; and

(2) a planning and contractual framework which would secure the delivery of that potential mitigation solution.

2.1.2 Mitigation Solution

2.1.2.1 Following initial assessment work commissioned by the Applicant, the parties are agreed that the following technical solution should provide suitable mitigation in the circumstances (for the purposes of this note the "**Mitigation Solution**"):-

2.1.2.1.1 The design and creation of a plot suppression zone in respect of the Allanshill primary radar (by adapting the radar data processing systems at [the Scottish Area Control Centre at Prestwick] and making necessary software changes) to be of a sufficient size to remove the false primary plots which NATS believes are likely to be generated by the Development ("**Plot Suppression Zone**"); and

2.1.2.1.2 As genuine primary plots received from aircraft will also be removed by the creation of the Plot Suppression Zone, the in-fill of the Plot Suppression Zone with a replacement primary radar feed from NERL's Perwinnes primary radar.

2.1.2.2 Due to the timing of NATS' "Radar Site Services" upgrade programme, the Mitigation Solution could not be implemented at the earliest until the upgraded Perwinnes primary radar has been introduced back into operation and NATS' operational handover date has occurred (currently estimated by NATS to be in June 2011 at the earliest).

2.1.2.3 If the Application is granted and is to be implemented by the Developer, the Developer will be obliged (in conjunction and full consultation with NATS) to further develop the detail and secure the validation and implementation of the Mitigation Solution.

2.1.2.4 NATS has agreed that it will withdraw its objection to the Application prior to the Inquiry provided that a contractual structure is put in place at that time (see further at [2.2.3] below) and appropriate planning conditions (based on those agreed between NATS and the Developer) are imposed by the Scottish Ministers if they grant the S.36 consent (see further in response to [2] below) to ensure that Mitigation Solution is installed and made operational before any wind turbine comprised in the Development is erected.

2.1.3 Contractual Structure

2.1.3.1 Discussions with NATS are at an advanced stage (with draft contracts exchanged several times). The following summary sets out the position and current understanding of the Developer as at 8 September 2010. Discussions are now concluded and the contractual structure in place before the Inquiry formally commences in November.

2.1.3.2 The parties have agreed an overarching Statement of Common Understanding ("**SoCU**") will be entered into between the Developer and NATS prior to the Inquiry which, broadly, will:

- summarise the common ground between the parties, including high level detail as to the Mitigation Solution which is to be developed and the agreed planning condition which the parties wish imposed if S.36 consent is granted;

- identify the stage reached as to the design of the Mitigation Solution and the process to be followed by the parties;
- provide for the Developer to pay for NATS' reasonable cost for the work identified to date (up to pre-agreed levels); and
- outline the key principles which, going forward, will govern the further development, agreement and implementation of the Mitigation Solution.

2.1.3.3 It is anticipated that in addition to the SoCU a number of commercial contracts will be entered into between the Developer and NATS to provide certainty as to the detailed works required during each phase of development and implementation of the Mitigation Solution and also to provide for payment of NATS' costs. Presently, three separate contracts are envisaged as follows:

- **Phase 1 Contract** - a commercial contract for the initial progression of the Mitigation Solution. This contract is currently being negotiated with NATS. The Developer expects to enter into this "Phase 1 Contract" prior to the commencement of the Inquiry. Together with the SoCU this is the contract NATS requires to be put in place in order to withdraw its objection.
- **Phase 2 and 3 Contract** – a commercial contract providing for testing and validation of the Mitigation Solution and its subsequent installation and operational acceptance; and
- **Phase 4 Contract** – a commercial contract governing the final approval of the Mitigation Solution and identification of any ongoing operational requirements.

3 Recent Developments

The following is the draft of **Agreed Conditions** preferred by NATS and agreed by the Applicant within the SoCU relating to the development of the Mitigation Solution for the proposed Dorenell Wind farm signed on 7 September 2010:

Unless otherwise agreed in writing by the parties, the agreed conditions ("**Conditions**") read as follows:

- No turbine shall be erected until an Operator Radar Mitigation Scheme has been submitted to and approved in writing by the Scottish Ministers following consultation with the Operator.
- No turbine shall be erected until all obligations contained within the Operator Radar Mitigation Scheme (other than ongoing obligations) have been full implemented and the development shall thereafter be operated fully in accordance with all ongoing obligation contained within the Operator Radar Mitigation Scheme.

Definitions: For the purpose of conditions 3.1.1, 3.1.2 and 3.1.3 above;

"Operator" means NATS (En Route) plc, incorporated under the Companies Act (4129273) whose registered office is 5th Floor, Brettenham House South, Lancaster Place, London, WC2E 7EN or such other organisation licensed from time to time under sections 5 and 6 of the Transport Act 2000 to provide air traffic services to the relevant managed area (within the meaning of section 40 of that Act).

"Operator Radar Mitigation Scheme" means a detailed scheme agreed with the Operator which sets out the measures to be taken to mitigate at all times the impact of the Development on the primary radar of the Operator located at Allanshill and associated air traffic management operations of the Operator which reflects the requirements of the submitted Statement of Common Understanding.

"Statement of Common Understanding" means a document agreed with the Operator dated 7 September 2010 and submitted to Scottish Minister which sets out the high level requirements of the Operator Radar Mitigation Scheme and the principles which will govern the development and agreement of such a scheme (as the same may be amended from time to time by agreement with the Operator).