

15.0 Aviation and Defence

Introduction

- 15.1 A review of the Aviation and Defence assessment in the Original ES has been undertaken to compare the effects on Aviation and Defence of the consented scheme against those predicted for the proposed scheme and is presented below.

Policy & Legislation Updates

- 15.2 Since the previous assessment there has been a routine update to Policy 1 Civil Aviation Publication (CAP) 168 Licensing of Aerodromes Issue 11 dated January 2019. The update does not materially affect or change the assessment that was undertaken previously.

Baseline

- 15.3 The only significant change to the baseline is in relation to Glasgow Prestwick Airport (GPA). GPA has now installed an additional radar, a Terma Scanter 4000 radar specifically to mitigate the effects of wind turbines that will affect the performance of their existing air traffic control primary surveillance radar (referred to as the 'PSR'). The Terma 4000 radar has a maximum range of 74km (40nm). Whilst the radar is designed to be capable of mitigating the effects of wind turbines sufficiently to enable a full air traffic control (ATC) radar service to be maintained, GPA has stated that each individual wind farm will need to be assessed to ensure the system is capable of providing the required standard of surveillance in the vicinity of any wind turbines. This is being called a 'Terma Study'.

Significant Effects

- 15.4 The proposed increase in turbine size for the proposed development (from 125 m to tip to up to 149.9 m to tip) will have an effect on two aviation stakeholders, GPA and NATS En Route Ltd (NERL). In the case of GPA the turbines from the consented development would all have been visible to the existing PSR and clearly the larger turbines will be more visible, however, any increase in the effect of the new layout on the GPA PSR will be insignificant. The radar mitigation scheme agreed for the consented development is the same scheme required for the proposed development.
- 15.5 The Applicant commissioned a Technical and Operational Assessment (TOPA) from NATS for the proposed development. The TOPA showed that the only significant additional effect resulting from the increased turbine size will be in the case of the NERL 'en route' radar at Lowther Hill. NERL did not object to the original application for the consented development as they calculated that the impact of 125 m turbines on the performance of the Lowther Hill radar was insignificant or manageable. By increasing the turbine tip height to 149.9 m, the turbines are more exposed to the radar as there is less terrain screening and NERL require this to be mitigated.

Mitigation

GPA

- 15.6 Discussions with GPA and their legal advisors have led to an agreement that the applicant will enter into a contract to fund a 'Terma Study'. As previously stated, this study is site and layout specific and will enable GPA to have confidence that the Terma Radar will be capable of maintaining the required probability of detection (pd) over and around the wind farm whilst at the same time ensuring that the tracking system will be able to satisfactorily differentiate between aircraft and turbines so that false tracks will not be generated and 'track seduction' of aircraft will not occur. Once the study confirms this to be the case, then the Terma Radar will be able to be used to mitigate the impact on the GPA PSR. The interests of GPA can be protected through the imposition of the same planning condition (Condition 5) agreed with GPA for the consented development.

NERL

- 15.7 Discussions with NERL have agreed in principle that the effect of the turbines on the performance of the Lowther Hill radar could be mitigated by blanking out the turbines on that radar and infilling within the NERL Multi Radar Tracking System (MRT) by taking a feed from the Prestwick Terma Radar or another unaffected radar. NERL will also require visibility of the 'Terma Report' specific to the development to confirm that their coverage requirements will be met. It is also the case that NERL are in discussions, or have existing agreements with, a number of wind farm developers in the area that all require the same mitigation scheme, that is a blank and infill using the Terma Radar. The Terma Radar will, however, need to be upgraded from a single to a dual channel system in order to meet the NERL availability requirements. This is a standard upgrade that does not require any innovative technical solutions. There will also need to be an agreement between GPA and NERL to ensure that the availability and serviceability of the Terma Radar is maintained to NERL's requirements, which are likely to be more demanding than those required for GPA. NERL's interests can be protected through the imposition of a suitably worded planning condition and discussions are ongoing with NERL to agree the wording of a condition and for a suitable legal agreement to be drawn up between the developer, GPA and NERL.

Conclusion

- 15.8 Once mitigation is in place there will be no residual effects and as such the proposed development will have no additional significant effects when compared to the consented development.