Chapter 15: Aviation and Radar

Tables

Appendices

- Technical Appendix 15.1: Bhlaraidh Extension Wind Farm Aviation Lighting Assessment Report (Wind Farm Low Flying Aviation Consultants (WFLFAC)) dated 2 September 2025
- Technical Appendix 15.2: Civil Aviation Authority (CAA) Response to WFLFAC Aviation Lighting Assessment Report

15.1. Executive Summary

15.1.1. SSE Generation Limited (hereafter 'the Applicant') is proposing to vary Bhlaraidh Wind Farm Extension (hereafter 'the Consented Development') to increase the tip height of all 15 turbines to a new maximum blade tip height of up to 230 metres (m) (hereafter 'the Proposed Varied Development').

15.1.2. An assessment has been undertaken of the potential effects on aviation and radar during the construction, operation and decommissioning phases of the Proposed Varied Development.

15.1.3. The methodology utilised for the assessment of the Proposed Varied Development is the same as that presented and used in the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar**.

15.1.4. In respect of aviation, the key factor of the Proposed Varied Development is that the wind turbine tip heights will be increased to 230m above ground level (agl) compared with 180m agl tip heights for the Consented Development.

15.1.5. The aviation and radar baseline environment outlined for the Consented Development is also applicable to the Proposed Varied Development (see **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar**).

15.1.6. Scoping responses from HIAL and MoD to the **2025 Scoping Report**, confirmed that the Proposed Varied Development would not adversely impact either the Inverness Airport or RAF Lossiemouth ATC radars. This was also the case for the Consented Development.

15.1.7. The increased turbine tip heights from 180m to 230m meant that an additional aviation lighting assessment was required. The assessment, carried out by Wind Farm Low Flying Aviation Consultants (WFLFAC), proposed visible lighting to be installed on five wind turbines, which is a change from the Consented Development which had no requirement for any visible lighting, and MoD specification infra-red aviation lights to be installed on all 15 wind turbines.

15.1.8. The impacts to aviation and radar receptors during the construction, operation and decommissioning phase of the Proposed Varied Development has been assessed as **negligible** and therefore not significant, with the implementation of standard mitigation as outlined in the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar** prepared in support of the Consented Development and revised lighting scheme and mitigation detailed within this chapter.

15.1.9. For the avoidance of doubt, the term **zero** magnitude referenced in this chapter refers to no physical or technical impact on an aviation receptor. The

term **nil** significance is defined as no consequence or impact on an aviation receptor.

15.2. Scope of Assessment

15.2.1. The Applicant is proposing to vary the consented Bhlaraidh Wind Farm Extension (hereafter 'the Consented Development') to increase the tip height of all 15 turbines to a new maximum blade tip height of up to 230 metres (m) (hereafter 'the Proposed Varied Development'). The Proposed Varied Development comprises of the following variations:

- increasing the tip height of the consented turbines;
- increasing areas of crane hardstanding and foundation requirements for each turbine, some hardstands have been reorientated/repositioned;
- addition of one turning head, a total of nine new turning heads; and,
- the removal of one borrow pit search area, a total of seven borrow pit search areas.

15.2.2. This chapter evaluates the effects of the Proposed Varied Development on aviation and radar receptors. The assessment identifies and assesses the likely significant effects with respect to aviation associated with the construction, operation and decommissioning phases of the Proposed Varied Development. Furthermore, when comparing these effects from those of the Consented Development, this chapter highlights these differences particularly in reference to the findings of the aviation assessment provided in **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar** and the **2022 Additional Information Report, Chapter 15: Aviation & Radar**. This assessment has also been informed by consultation responses from aviation stakeholders in response to the 2025 Scoping Report (refer to **Technical Appendix 3.2, 3.3, 3.4 and 3.5)**.

15.2.3. The potential effects of wind turbines on aviation are widely publicised, but the primary concern is one of safety. There are three primary scenarios that may lead to potential impacts:

- Physical obstruction - wind turbines and potentially high mobile cranes during turbine erection can present a physical obstruction to aircraft in flight;
- Impacts on aviation radar systems and the provision of radar-based Air Traffic Services (ATS) - wind turbines can create unwanted radar clutter which appears on radar displays and can affect the provision of ATS to pilots. Radar clutter (or false radar returns) can make it difficult for air traffic controllers to differentiate between aircraft and those radar returns resulting

from the detection of wind turbines. Furthermore, the appearance of multiple false targets in close proximity can generate false aircraft tracks and reduce those returns from 'real' aircraft away from their true positions. It should be noted that impacts on radar systems are only possible if the wind turbine blades are moving, therefore this impact is generally applicable to the operational phase, or at the time of blade tip installation; and

- Communication, Navigation and Surveillance (CNS) equipment: A wide range of systems, together with air-ground communications facilities, can be adversely affected by development of infrastructure projects; specifically, when located within the physical safeguarding zones of CNS equipment.

15.3. Consultations

15.3.1. **Table 15.1** provides a summary of consultation undertaken with relevant aviation stakeholders and includes a summary of comments raised in the Scoping Opinion (refer to **Technical Appendix 3.2: Scoping Opinion**) of the Proposed Varied Development.

Table 15.1 - Consultation Responses

Consultee and Date	Consultation Response	Applicant Response
Energy Consents Unit (ECU) -Scoping Opinion 16 July 2025	The Ministry of Defence (MoD) requests the submission, approval, and implementation of an aviation safety lighting specification that details the installation of MoD accredited aviation safety lighting.	The Applicant accepts that MoD accredited aviation lighting will be required and has commissioned an aviation lighting report from WFLFAC which can be found at **Technical Appendix 15.1**. CAA has since approved the reduced lighting scheme (**Technical Appendix 15.2**). Potential effects on low flying aircraft are discussed further **in Sections 15.7 and 15.8**.
The Highland Council (THC) - Scoping Response 2 July 2025	The EIAR needs to recognise community assets that are currently in operation for example TV, radio, tele-communication links, aviation interests including radar, MoD safeguards, etc. In this regard the Applicant, when submitting a future application, will need to demonstrate what interests they have identified and the outcomes of any consultations with relevant authorities such as Ofcom, NATS, BAA, CAA, MoD, Highlands and Islands Airports Limited (HIAL) etc. through the provision of written evidence of concluded	Relevant to this chapter, the Applicant has engaged with all relevant aviation stakeholders. Potential effects on aviation receptors are discussed further **in Sections 15.7 and 15.8**.

	discussions/agreed outcomes. We consider the results of these surveys should be contained within the EIAR to determine whether any suspensive conditions are required in relation to such issues.	
	There should be continued dialogue with HIAL over the impact on the radar at airports in the area.	HIAL responded to the Scoping Report submitted by the Applicant **(Technical Appendix 3.1: Scoping Report)** confirming no impact on HIAL Air Traffic Control (ATC) operations at Inverness Airport. (See full HIAL scoping response below in this table)
Defence Infrastructure Organisation (on behalf of MoD) - Scoping Response 12 June 2025	The Proposed Development falls within Low Flying Area 14, an area within which fixed wing aircraft may operate as low as 250 feet (ft) or 76.2 m above terrain features to conduct low level flight training. The addition of turbines in this location has the potential to introduce a physical obstruction to low flying aircraft operating in the area. To address this impact, and given the location and scale of the development, the MoD would require conditions were added to any consent issued requiring that the development is fitted with aviation safety lighting and that sufficient data is submitted to ensure that structures can be accurately charted to allow deconfliction. The development proposed includes wind turbine generators that exceed a height of 150m agl and are therefore subject to the lighting requirements set out in the Air Navigation Order 2016. In addition to any CAA requirements, the MoD would require the submission, approval, and implementation of an aviation safety lighting specification that details the installation of MoD accredited aviation safety lighting.	The Applicant accepts that MoD accredited aviation lighting will be required and has commissioned an aviation lighting report from WFLFAC which can be found at **Technical Appendix 15.1**. CAA has since approved the reduced lighting scheme (**Technical Appendix 15.2**). Potential effects on low flying aircraft are discussed further **in Sections 15.7 and 15.8**.
HIAL - Scoping Response 17 July 2025	Our preliminary assessment shows that, at the given position and height, the Proposed Development	The Applicant notes HIAL's comments. Potential effects on

	would not infringe the safeguarding criteria and operation of Inverness Airport. Therefore, HIAL has no objections to the proposal.	aviation receptors are discussed further **in Sections 15.7 and 15.8**.
Meteorological (Met) Office - Scoping Opinion 2 June 2025	The Proposed Development is outside any of our standard 20 kilometre (km) consultation zones and we would able to manage any impacts on products and services derived from the weather radar data. Therefore, we have no concerns and don't need to be consulted further.	The Applicant notes the Met Office's comments. Potential effects on Met Office weather radars are discussed further **in Section 15.5** but are scoped out of the EIAR assessment.

15.4. Assessment Methodology

15.4.1. The methodology utilised for the assessment of the Proposed Varied Development is the same as that presented and used in the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar**.

Legislation, Policy and Guidance

15.4.2. Overarching policies which pertain to the Proposed Varied Development are detailed in **Chapter 4: Planning Policy**. The scope of this assessment has been informed by the following legislation, policy and guidance:

Legislation

15.4.3. Civil Aviation Publication (CAP) 393 – Air Navigation, The Order and the Regulations, 2016 (Version 6, 12 February 2021) (CAA, 2021a): Contains the Air Navigation Order (ANO) 2016 and Regulations made under the order, and defines the Rules of the Air regarding civil aviation in the United Kingdom (UK).

Policy

15.4.4. CAP 670 – Air Traffic Services Safety Requirements (Issue 3, 7 June 2019) (CAA, 2019): Sets out the safety regulatory framework and requirements associated with the provision of ATS.

15.4.5. CAP 764 – CAA Policy and Guidelines on Wind Turbines (Version 6, February 2016) (CAA, 2016): Provides CAA policy and guidance on a range of issues associated with wind turbines and their effect on aviation that need to be considered by aviation stakeholders, wind energy developers and Local Planning Authorities when assessing the viability of wind turbine developments.

15.4.6. CAP 774 – The UK Flight Information Services (Version 4, 15 December 2021) (CAA, 2021b): Details the suite of ATS which (excluding aerodrome services) are the only services provided in Class G airspace within the UK Flight Information Region. This document is equally applicable to civilian and military pilots and air traffic controllers.

15.4.7. Military Aviation Authority (MAA) Regulatory Publication 3000 Series, Air Traffic Management Regulations (last updated 15 April 2024) (MAA, 2024): Provides the regulatory framework and instructions to military personnel for provision of military ATC.

15.4.8. MAA Manual of Military Air Traffic Management (last updated 30 September 2019) (MAA, 2019): Provides regulations for military ATC and emergency procedures and utilisation of military designated airspace.

Guidance

15.4.9. CAP 032 - UK Integrated Aeronautical Information Package (IAIP) (CAA, 2025a): Provides comprehensive information on UK civilian aerodromes and aviation procedures within UK airspace.

15.4.10. CAA 1:500,000 Visual Flight Rules (VFR) Aviation Chart (CAA, 2025b): Designed to assist in the navigation of aircraft. Enables pilots to determine their position, safe altitude and route to a destination, highlighting navigation aids along the way, alternative landing areas in case of an in-flight emergency, and other useful information such as radio frequencies and airspace boundaries.

15.4.11. Ministry of Defence (MoD) Obstruction Lighting Guidance (1 January 2020) (MoD, 2020): Sets out the MoD's minimum requirements and standards for

installation of aviation lighting of onshore and offshore wind turbine developments.

15.4.12. National Air Traffic Services (NATS) Self-Assessment Maps (2025): Assists wind farm developers to understand where interference with NATS infrastructure is likely.

15.4.13. UK Military Aeronautical Information Publication (UK Mil AIP) (MoD, 2025): Provides comprehensive information on UK military aerodromes and guidance to military aircrew on in-flight navigation procedures.

15.4.14. The assessment of effects of the Proposed Varied Development on aviation has been undertaken following a desk-based review of literature and available data sources to support this EIAR. It considers the following key potential impacts upon aviation receptors associated with construction, operation and decommissioning of the Proposed Varied Development:

- Civil airport Instrument Flight Procedures (IFP) (including CNS equipment);
- Military aerodrome IFPs (including CNS equipment);
- Civil ATC radar;
- Military ATC radar;
- Military Air Defence (AD) radar;
- Low flying operations (military and civilian Emergency Helicopter Support Units (EHSUs));
- Local minor aerodromes;
- Local airspace restrictions (Prohibited/Restricted/Danger Areas and Military Practice Exercise Areas (PEXAs); and
- Meteorological (Met) Office radars.

15.4.15. The assessment is based on the Proposed Varied Development as described in **Chapter 2: Design Iteration and Proposed Varied Development.** In respect of aviation, the key factor of the Proposed Varied Development is that the wind turbine tip heights will be increased to 230m agl compared with 180m agl tip heights for the Consented Development.

15.4.16. The scope of the assessment has also been informed by consultation responses summarised in **Table 15.1** and the key aviation legislation, policy and guidance documents outlined above in this section.

Data Sources

15.4.17. The existing data sets and literature with relevant coverage to the Proposed Varied Development, which have been used to inform this chapter, and will inform the baseline conditions in **Section 15.5**, are outlined in **Table 15.2**.

Table 15.2 - Summary of Key Data Sources for Aviation

Title	Source	Reference
UK IAIP	CAA	CAA (2025a)
VFR Aviation Chart	CAA	CAA (2025b)
UK Mil AIP	MoD	MoD (2025)
Self-Assessment Maps	NATS	NATS (2025)
Scottish Planning Policy	Scottish Government	Scottish Government (2014)

Study Area

15.4.18. To assess the impact on aviation, a study area has been devised that takes into account the immediate vicinity of the Proposed Varied Development, the consultation criteria for aviation assets as described in CAP 764 (Policy and Guidelines on Wind Turbines) (CAA, 2016) and a wider study area determined by the range of potentially affected radar systems; both ATC and AD radar systems.

Site-Specific Surveys

15.4.19. In order to ascertain the exact aviation lighting requirements for the Proposed Varied Development, the Applicant commissioned an aviation lighting assessment from WFLFAC. The assessment proposed the visible and infra-red aviation lights to be installed on the Proposed Varied Development's wind turbines. The WFLFAC report, which can be found at **Technical Appendix 15.1**, has since been accepted and approved by the CAA. The CAA approval letter can be found at **Technical Appendix 15.2**.

15.4.20. No other site-specific surveys have been undertaken to inform this assessment. This is because the baseline characterisation developed through existing data sources, coupled with ongoing consultation with relevant stakeholders is considered sufficient to inform the aviation chapter.

Limitations and Assumptions

15.4.21. The CAA and MAA data used in this chapter, as detailed in **Table 15.2**, are the most up to date publicly available information which can be obtained from the applicable data sources as cited. Data has also been provided through studies and consultation as detailed in **Table 15.1**. It is considered that the data employed in the assessment are robust and sufficient for the purposes of the impact assessment presented.

15.5. Consented Development EIAR Baseline

15.5.1. This section summarises the aviation and radar baseline environment for the Consented Development which is also applicable to the Proposed Varied Development (see **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar**).

Airspace

15.5.2. The Site is located in uncontrolled (Class G) airspace from ground level to Flight Level 195 (approximately 19,500 feet above sea level). The nearest controlled airspace is located 22km to the east.

Low Flying

15.5.3. The Site is located in Low Flying Area 14 in the daytime UK Military Low Flying System, where flight may be authorised down to 250 feet Minimum Separation Distance, and in Allocated Region 1B East in the Night Low Flying System. The Site is in an area classified by the MoD as a *"low priority military low flying area less likely to raise concerns"*.

ATC Radar

15.5.4. There are four ATC radars within 150km radius of the Site:

- Inverness Airport (48km north east of the Site);
- RAF Lossiemouth (93km north east of the Site);
- Leuchars Diversion Airfield (146km south east of the Site); and
- Kincardine (142km south east of the Site).

15.5.5. The Leuchars and Kincardine radars both have instrumented ranges of 111km and are therefore incapable of monitoring the airspace over the Site. Consequently, these radars were scoped out of the assessment. However, the Site is within the instrumented ranges of the Inverness Airport and RAF

Lossiemouth radars; consequently, these radars were scoped into the assessment.

Other Potential Aviation Receptors Scoped Out

15.5.6. There are no Meteorological Office rainfall radars within 30km of the Site.

15.5.7. There are no Secondary Surveillance Radars or aeronautical radio navigation aids within 20km of the Site.

15.5.8. There are no licensed or Government aerodromes within 30km of the Site.

15.5.9. There are no unlicensed aerodromes, airstrips or gliding sites within 10km of the Site.

15.6. Summary of Effects Predicted & Mitigation Measures suggested for the Consented Development

15.6.1. The predicted levels of impacts identified in the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar** were:

- Potential adverse effects on the ATC radars at Inverness Airport and RAF Lossiemouth; and
- Potential to present an obstruction hazard to low flying aircraft.

15.6.2. Embedded mitigation measures were also identified in **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar, Section 8** as follows:

- Objects that extend to 150m or more above ground level are required by Article 222 of the UK ANO 2016 to be lit with medium intensity steady red lights in order to mitigate the risk of aircraft colliding with the turbines at night; and
- UK ANO 2016 also makes provision for the approval by the CAA of a lighting scheme other than that specified in the ANO, on the basis of a special aeronautical study.

Construction

ATC Radar

15.6.3. Radar line of sight assessments determined that none of the wind turbines associated with the Consented Development would be visible to the Inverness Airport and RAF Lossiemouth ATC radars due to intervening terrain. Consequently, as there would be no effects on these radars, the magnitude of these effects was **zero** and the significance was **nil**.

Low Flying Aircraft

15.6.4. Regarding the potential to present an obstruction hazard to low flying aircraft, the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar** noted that, since the turbines had heights of 150m or more agl, they were subject to the mandatory lighting requirements of Article 222 of the UK ANO 2016. In order to reduce the visual impact of any visible spectrum lighting on the Consented Development, an aeronautical study was carried out and a proposal submitted to the CAA for a reduced lighting scheme which consisted of only infra-red lighting which is not visible to the unaided human eye. The Consented Development's lighting scheme was for infra-red lights to be installed on turbines T03, T05, T06, T08, T09, T12, T15, T16 and T17; see **2022 AIR, Figure 2.1.: Site Layout Plan – Proposed Changes**. The revised lighting scheme was agreed with all relevant aviation stakeholders and approved by CAA on 25 June 2021.

15.6.5. This impact was to be further mitigated by promulgation of data on the locations and heights of the wind turbines on aeronautical charts and in aviation information publications with the following planning conditions imposed for the Consented Development by the Scottish Government ECU.

Condition 22:

- No development, with the exception of Site Enabling Works, shall commence until a scheme for aviation lighting for the Development consisting of Ministry of Defence ("MoD") accredited infra-red aviation lighting has been submitted to and approved in writing by the Planning Authority in consultation with the MoD. The turbines shall be erected with the approved lighting installed and the lighting shall remain operational throughout the duration of the permission.

Condition 23:

- At least 14 days prior to the commencement of the erection of the turbines the Company has provided the Planning Authority, Ministry of Defence, Defence

Geographic Centre and National Air Traffic Services ("NATS") with the following information and has provided evidence to the Planning Authority of having done so.

(a) the date of the commencement of the erection of wind turbine generators;
(b) the maximum height of any construction equipment to be used in the
erection of the wind turbines;
(c) the date any wind turbine generators are brought into use; and
(d) the latitude and longitude and maximum heights of each wind turbine
generator, and any anemometer mast(s).

15.6.6. Overall, following implementation of the mitigation measures outlined above, the magnitude of the effect of the Consented Development on low flying aircraft was **low** and the significance of the effect was **negligible**.

15.6.7. It should be noted that an **Aviation Safety & Lighting Scheme** document was submitted to the ECU in June 2024 which enabled the pre-commencement elements of Conditions 22 and 23 to be satisfied.

Operation

15.6.8. The proposed aviation lighting scheme was accepted by all relevant aviation stakeholders. Consequently, the overall magnitude of the effect of the Consented Development on aviation during the operation phase was **low** and the significance of the effect was **negligible**.

Decommissioning

15.6.9. As the locations and heights of the Consented Development's wind turbines would remain on aeronautical charts and in aviation information publications throughout the decommissioning phase, the overall magnitude of the effect of the Consented Development on aviation during the decommissioning phase

was found to be **low** and the significance of the effect was found to be **negligible**.

15.7. Revised Assessment of Effects for the Proposed Varied Development

Baseline

15.7.1. The baseline environment for the Proposed Varied Development remains unaltered from the baseline environment outlined in the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar**.

Revised Assessment of Effects – Construction

ATC Radar

15.7.2. In their response to the **Scoping Report (Technical Appendix 3.1)**, HIAL confirmed that the Proposed Varied Development would not infringe the safeguarding criteria and operation of Inverness Airport and that HIAL has no objections to the proposal; see **Table 15.1**. Furthermore MoD, in their scoping response, did not raise any concerns over potential adverse effects on the RAF Lossiemouth ATC radar; see **Table 15.1**. Therefore, as the Proposed Varied Development will not be visible to the Inverness Airport and RAF Lossiemouth ATC radars there will be no effects on these radars. Consequently, the magnitude of these effects is **zero** and the significance is **nil**.

Low Flying Aircraft

15.7.3. Regarding the potential to present an obstruction hazard to low flying aircraft, the increased turbine tip heights of the Proposed Varied Development to 230m compared with 180m for the Consented Development meant that an additional aviation lighting assessment was required to revise the aviation lighting schemes previously approved for the Consented Development.. As outlined in **Paragraph 15.4.19,** the Applicant commissioned an aviation lighting assessment from WFLFAC in order to ascertain the exact aviation lighting requirements for the Proposed Varied Development. The assessment proposed both visible and infra-red aviation lights to be installed on the Proposed Varied Development's wind turbines. The WFLFAC report, which can be found at **Technical Appendix 15.1**, has since been accepted and

approved by the CAA. The CAA approval letter can be found at **Technical Appendix 15.2**.

15.7.4. Overall, following implementation of the agreed aviation lighting scheme outlined above, the magnitude of the effect of the Proposed Varied Development on low flying aircraft is **low** and the significance of the effect is **negligible**.

Operation

15.7.5. The overall magnitude of the effect of the Proposed Varied Development on aviation during the operation phase is found to be **low** and the significance of the effect is found to be **negligible**.

Decommissioning

15.7.6. The overall magnitude of the effect of the Proposed Varied Development on aviation during the decommissioning phase is found to be **low** and the significance of the effect is found to be **negligible**.

15.8. Revised Mitigation Measures for the Proposed Varied Development

15.8.1. The approved lighting scheme for the Proposed Varied Development includes installation of five visible lights on turbines T02, T05, T06, T09 and T17 which is a change from the Consented Development which had no requirement to install any visible lighting. The infra-red lighting requirement for the Proposed Varied Development has also increased compared with the Consented Development with MoD specification lighting required on all turbines i.e. T01, T02, T03, T04, T05, T06, T07, T08, T09, T10, T11, T12, T15, T16 and T17. Infra-red lighting will only be visible to aircrews using night vision detection equipment and will not be visible to the naked eye.

15.8.2. This impact will also require, as further mitigation, the promulgation of data on the locations and heights of the wind turbines on aeronautical charts and in aviation information publications as described for the Consented Development. Planning Conditions 22 and 23 previously imposed by the ECU for the Consented Development, and as outlined in **Paragraph 15.6.5,** will also need to be imposed for the Proposed Varied Development. The Applicant intends to submit an **Aviation Safety & Lighting Scheme** document to the

ECU, similar to that provided for the Consented Development, in order that the relevant aviation planning conditions can be discharged.

15.8.3. Overall, following implementation of the mitigation measures outlined above, the magnitude of the effect of the Proposed Varied Development on low flying aircraft during the construction phase is **low** and the significance of the effect is **negligible**.

Operation

15.8.4. The revised aviation lighting scheme has been accepted by all relevant aviation stakeholders. Consequently, the overall magnitude of the effect of the Proposed Varied Development on aviation during the operation phase is **low** and the significance of the effect is **negligible**.

Decommissioning

15.8.5. As the locations and heights of the Proposed Varied Development's wind turbines will remain on aeronautical charts and in aviation information publications throughout the decommissioning phase, the overall magnitude of the effect of the Proposed Varied Development on aviation during the decommissioning phase is **low** and the significance of the effect is **negligible**.

15.9. Assessment of Cumulative Effects

15.9.1. In terms of cumulative impact, any potential impact on an aviation receptor is generally treated as a standalone effect. Whilst other wind turbine developments may be located in close proximity, the effect on each receptor is considered on a case-by-case basis and any significant effect is sufficient to trigger an objection from the relevant aviation stakeholder. Although mitigation may have been agreed for other developments, it would still be necessary for negotiations and discussions with aviation stakeholders to be carried out under separate arrangement. As such, no specific cumulative effects on aviation stakeholders/receptors are expected. Consequently, the overall cumulative effect of the Proposed Varied Development on aviation is of **low** magnitude and the significance of the effect is **negligible**.

15.10. Conclusion

15.10.1. This chapter confirms that the assessment carried out within the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar** remains unchanged for the Proposed Varied Development.

15.10.2. Scoping responses from HIAL and MoD to the **Scoping Report**, confirmed that the Proposed Varied Development would not adversely impact either the Inverness Airport ATC radar or the RAF Lossiemouth ATC radar. Consequently, the magnitude of effects on these radars is **zero** and the significance is **nil**.

15.10.3. The increased turbine tips heights of the Proposed Varied Development to 230m compared with 180m for the Consented Development meant that an additional aviation lighting assessment was required. The assessment, carried out by WFLFAC, proposed both visible and infra-red aviation lights to be installed on the Proposed Varied Development's wind turbines. The lighting scheme, which has subsequently been approved by CAA, includes installation of five visible lights on turbines T02, T05, T06, T09 and T17 which is a change from the Consented Development which had no requirement for any visible lighting. The infra-red lighting requirement for the Proposed Varied Development also increased compared with the Consented Development with MoD specification lighting required on all turbines i.e. T01, T02, T03, T04, T05, T06, T07, T08, T09, T10, T11, T12, T15, T16 and T17. The Applicant intends to submit an **Aviation Safety & Lighting Scheme** document to the ECU in order that the relevant aviation planning conditions can be discharged.

15.10.4. The impacts to aviation and radar receptors during the construction, operation and decommissioning phase of the Proposed Varied Development has been assessed as **negligible** and therefore, not significant, with the implementation of standard mitigation as outlined in the **2021 EIAR, Volume 1, Chapter 15: Aviation & Radar** prepared in support of the Consented Development.

15.11. References

CAA (2021a). *CAP 393, Air Navigation: The Order and the Regulations (2016)*. Available at: https://www.legislation.gov.uk/uksi/2016/765/contents/made. Accessed on: 16 October 2025.

CAA (2019). *CAP 670, Air Traffic Services Safety Requirements (Issue 3, 7 June 2019)*. Available at: https://www.caa.co.uk/publication/download/17362. Accessed on: 16 October 2025.

CAA (2016). *CAP 764 - CAA Policy and Guidelines on Wind Turbines (Version 6, February 2016)*. Available at: https://www.caa.co.uk/publication/download/14561. Accessed on: 16 October 2025.

CAA (2021b). *CAP 774 - The UK Flight Information Services (Version 4, 15 December 2021)*. Available at: https://www.caa.co.uk/publication/download/19298. Accessed on: 16 October 2025.

MAA (2024). *MAA Regulatory Publication 3000 Series: Air Traffic Management Regulations (15 April 2024)*. Available at: https://www.gov.uk/government/collections/3000-series-air-traffic-management-regulations-atm. Accessed on: 16 October 2025.

MAA (2019). *Manual of Military Air Traffic Management (30 September 2019)*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835083/MMATM_Issue_12.pdf. Accessed on: 16 October 2025.

CAA (2025a). *CAP 032 - UK Integrated Aeronautical Information Package (2025)*. Available at: https://www.aurora.nats.co.uk/htmlAIP/Publications/2021-11-04-AIRAC/html/index-en-GB.html. Accessed on: 16 October 2025.

CAA (2025b). *Visual Flight Rules Chart (CAA, 2025)*. Available at: https://nats-uk.ead-it.com/cms-nats/opencms/en/Charts/vfr-charts/. Accessed on: 16 October 2025.

MoD (2020). *Obstruction Lighting Guidance (1 January 2020)*. Available at: https://www.contarnex.com/infrared-obstruction-

lighting/MOD%20Obstruction%20Lighting%20Guidance%202020.pdf. Accessed on: 16 October 2025.

NATS (2025). *NATS Self-Assessment Maps (2025)*. Available at: https://www.nats.aero/services-products/services/wind-farms/n/wind-farms-self-assessment-maps/. Accessed on: 16 October 2025.

MoD (2025). *UK Military Aeronautical Information Publication (2025)*. Available at: https://www.aidu.mod.uk/aip/aipVolumes.html. Accessed on: 16 October 2025.

Scottish Government (2014). *Scottish Planning Policy*. Available at: https://www.gov.scot/publications/scottish-planning-policy/pages/2/. Accessed on: 16 October 2025.