

CHAPTER 16 AVIATION

16.1	Executive Summary	16-1
16.2	Introduction	16-2
16.3	Scope of Assessment	16-2
16.4	Legislation, Policy and Guidance	16-5
16.5	Methodology	16-5
16.6	Baseline	16-7
16.7	Potential Effects	16-8
16.8	Mitigation	16-11
16.9	Residual Effects	16-11
16.10	Cumulative Effects	16-12
16.11	Conclusion	16-12
16.12	References	16-14

Technical Appendices (Volume 4)

Technical Appendix 16.1: Aviation Impact Assessment

16. Aviation

16.1 Executive Summary

- 16.1.1 The potential effects of the Proposed Development on aviation and radar in the surrounding area have been assessed and a technical report is included as Technical Appendix 16.1. This includes a review and assessment of military and civil interests. No significant effects are predicted with implementation of appropriate mitigation measures, as outlined in Section 16.8 of this Chapter.
- 16.1.2 The nearest on-airfield radar is located at Inverness Airport, which is located 61.1km from the Proposed Development. No significant effects on Inverness Airport Primary Surveillance Radar (PSR) are predicted, following the results of a technical assessment in accordance with industry best practice and the appropriate guidance (see Section 16.4 of this Chapter and Technical Appendix 16.1).
- 16.1.3 Prior to the implementation of mitigation measures, a **significant effect** on Military Low Flying is predicted due to its location within a high priority military low flying area.
- 16.1.4 An appropriate infrared aviation lighting scheme will be discussed with the Ministry of Defence (MOD) and implemented by the Applicant, by means of a planning condition, post consent. With implementation of appropriate mitigation measures, as outlined in Section 16.8 of this Chapter and Technical Appendix 16.1, **no significant effects** are predicted on Military Low Flying.
- 16.1.5 **No significant effects** are predicted from physical obstruction following the results of a technical assessment in accordance with industry best practice and the appropriate guidance (see Section 16.4 and Table 16.1 of this Chapter, and Technical Appendix 16.1).
- 16.1.6 The potential effects of the Proposed Development were considered in the context of existing, consented, and proposed developments in the surrounding area. Based on the results of the assessment, **no significant cumulative effects** on aviation or radar are predicted.

16.2 Introduction

16.2.1 This Chapter considers the potential effects on aviation and radar associated with the construction, operation and decommissioning of the Proposed Development. The specific objectives of the Chapter are to:

- describe the baseline, with specific consideration of the existing wind developments (Rosehall and Achany Wind Farms), the consented wind development (Braemore Wind Farm), the proposed wind developments (Sallachy and Meall Buidhe Wind Farms), and the Proposed Development (149.9m maximum tip height above ground level);
- describe the assessment methodology and significance criteria used in completing the impact assessment;
- describe the potential effects, including direct, indirect and cumulative effects;
- describe the mitigation measures proposed to address likely significant effects; and
- assess the residual effects remaining following the implementation of mitigation.

16.2.2 The assessment has been carried out by Pager Power Limited. Pager Power has undertaken projects in 50 countries worldwide with over 20 years of experience within the wind energy industry.

16.2.3 The author has almost two years of experience providing technical expertise and guidance on a range of planning issues for large and small wind developments in the UK and internationally. The reviewers of this Chapter and Technical Appendix 16.1 have between 8 and 20 years of experience.

16.2.4 This Chapter is supported by:

- Technical Appendix 16.1: Aviation Impact Assessment.

16.3 Scope of Assessment

16.3.1 The Proposed Development would introduce new physical structures (wind turbine generators (WTGs)) in the area. Large structures can affect aviation infrastructure in predominantly the following two ways:

- present a collision risk for aircraft; and
- block and/or reflect radio signals from radar installations and other navigation aids.

16.3.2 The technical analysis has been undertaken based on a WTG tip height of up to 149.9m above ground level.

Study Area

16.3.3 The Study Area for aviation issues is defined by individual receptors.

16.3.4 For aerodrome physical safeguarding, which is protection against collision risks, aerodromes typically safeguard out to 20km. The assessment has considered aerodromes beyond this range for completeness and so the study area is approximately 30km from any proposed WTGs within the Proposed Development.

16.3.5 For on-airfield radar, the Study Area extends to the maximum theoretical and operational range of a radar where visibility of the Proposed Development is possible. This can lead to radar study area of over 100km.

- 16.3.6 Technical Appendix 16.1 contains the technical report that identifies the relevant installations that have been considered.

Consultation Responses

- 16.3.7 A summary of the consultation responses from the 2019 and 2020 Scoping exercises carried out by the Applicant are presented in Table 16.1.

Table 16.1: Consultation Responses

Consultee and Date	Summary of Response	Comment/Action Taken
NATS Safeguarding (NATS)	NATS has no objection to the Proposed Development.	No further action.
Highlands and Islands Airport (HIAL)	HIAL has confirmed that the Proposed Development will not infringe on the Wick and Inverness Airport OLSs and has no objection. HIAL has advised there is a potential the Proposed Development would impact on the direct arrival flight procedures into Wick Airport should the WTG height increase.	No further action.
Ministry of Defence (MOD)	The MOD has requested that the perimeter WTGs be fitted 25 candela omni-directional red lighting or Infrared COMBI lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point.	Discussions with the MOD to agree an appropriate aviation lighting scheme are ongoing. The Applicant commits to implementing the agreed infrared aviation lighting scheme.

Effects to be Assessed

- 16.3.8 Table 16.2 sets out the assessed effects. Technical Appendix 16.1 presents the technical report containing the assessment.

Table 16.2: Effects to be Assessed

Installation / Feature	Potential Effect
On-airfield radar (used for air traffic control)	Radar clutter could occur due to reflection of the radar signal by WTGs.
Military Low Flying	The MOD carries out military low flying for training purposes over the UK. Some areas are more sensitive to collision risk than others, within the most critical areas the presence of over-ground obstacles must be carefully managed for safety reasons.
Physical obstruction	When WTGs are the tallest structure present in an area, they can be a physical obstruction for aviation activity. Turbines are therefore considered a collision risk for aircraft.

Effects Scoped Out of Assessment

16.3.9 Table 16.3 sets out the effects that have been scoped out of assessment.

Table 16.3: Effects Scoped Out of Assessment

Installation / Feature	Potential Effect	Reason for Scoping Out
Meteorological radar	Meteorological radar, used for monitoring and predicting precipitation levels, can be affected by WTGs reflecting and/or blocking the radar signal.	Meteorological radar installations are typically safeguarded against wind developments within 20km. There are no meteorological radar in the vicinity of the Proposed Development that would require assessment.
Instrument Flight Procedures (IFPs)	The published procedures at Inverness Airport have been assessed. In particular, the missed approach procedure for aircraft approaching from the east has been considered in detail, because aircraft following this procedure would pass nearest the Proposed Development.	A high-level IFP assessment (see Technical Appendix 16.1) found that a detailed assessment was not required because the distance between the Proposed Development and the assessed procedures exceeded all relevant clearance minima.
Minimum Safe Altitudes (MSA)	The MSA for an aircraft is influenced by the elevation of nearby obstacles. It is necessary to consider the effect of tall structures on MSAs.	The Proposed Development lies approximately 15km outside the Inverness SMAC and therefore pilots in this airspace will not be receiving instruction from radar derived ATC services.
Navigational Aids	WTGs can block or reflect the signals emitted from a navigational aid, impacting its effectiveness.	Navigational aid installations are typically safeguarded against wind developments within 30km. There are no navigational aids in the vicinity of the Proposed Development that would require assessment.
En-Route Radar	En-Route radar throughout the UK are operated and safeguarded by NATS, formerly National Air Traffic Services. WTGs can block or, more importantly, reflect radar signals. This can cause radar clutter and/or bearing errors along with other issues under particular circumstances.	En-route radar installations are typically safeguarded against wind developments within 100km. No en-route radar has been identified that would require assessment.
Obstacle Limitation Surfaces (OLS)	An OLS is an imaginary surface that is defined in three dimensions at a licensed aerodrome. Multiple OLSs are defined for safety purposes. Infringement of an OLS can signify a potential collision risk.	The closest aerodrome to the Proposed Development is Dornoch Airstrip, which is located 36km away. Consultation with HIAL has indicated that the Proposed Development will not infringe on the Wick and Inverness Airport OLS.

- 16.3.10 Effects arising from the process of decommissioning have been scoped out since they are of a similar nature to construction issues, but of a smaller scale and likely a shorter duration.

16.4 Legislation, Policy and Guidance

- 16.4.1 The following relevant guidance from the Civil Aviation Authority (CAA) and the International Civil Aviation Organisation (ICAO) informed the methodology of the assessment:

- CAA (2019), CAP 168 Licensing of Aerodromes, Edition 11;
- CAA (2018), CAP 777 ATC Surveillance Minimum Altitude Charts in UK Airspace Policy and Design Criteria, Version 5;
- CAA (2016), CAP 764 Policy and Guidelines on Wind Turbines, Version 6;
- ICAO (2006), Procedures for Air Navigation Services, Aircraft Operations, Volume II Construction of Visual and Instrument Flight Procedures, Fifth Edition;
- ICAO (2015), European Guidance Material on Managing Building Restricted Areas, Third Edition; and
- NATS AIP (digital resource, various publication dates).

16.5 Methodology

Overview

- 16.5.1 The potentially affected installations have been identified based on a database of infrastructure owned by Pager Power, published sources and inspection of relevant aviation maps. These sources highlighted the aerodromes, radar installations, navigation aids and military low flying zones that require consideration.
- 16.5.2 Technical assessments were carried out using sophisticated computer modelling and a digital terrain database - based on OSGB 36 datum.
- 16.5.3 All assessments have been undertaken based on the 'bare-earth' case i.e. without consideration of screening from trees or buildings. This is the most conservative approach, particularly for radar line of sight assessments because additional obstructions would reduce the predicted impact of the Proposed Development.

Method of Baseline Characterisation

Desk surveys

- 16.5.4 The primary sources of information for the technical assessments were:
- Pager Power's database of installations – continuously updated based on stakeholder consultation, field surveys and official publications;
 - NATS Aeronautical Information Package – which includes coordinate information for navigation aids at licensed aerodromes;
 - the Applicant's provided information pertaining to the existing developments at the Proposed Development location; and
 - relevant aviation charts.
- 16.5.5 The technical analysis has been informed by:

- a digital terrain database – that is interpolated by a sophisticated weighted algorithm;
- radar line of sight analysis that includes earth curvature and atmospheric refraction;
- military low flying zones published by the MOD; and
- safeguarding criteria specified within CAA and ICAO publications.

Field survey techniques

16.5.6 No field surveys were required as part of the analysis.

Additional good practice

16.5.7 It is good practice to liaise with the relevant stakeholders, in this case HIAL, prior to the construction phase where relevant. For example, the presence of tall cranes etc. would be communicated to HIAL prior to construction works starting.

16.5.8 The Proposed Development would be marked on relevant aviation charts by the CAA.

Effects Evaluation Methodology

Receptor sensitivity

16.5.9 Each receptor has been designated a sensitivity based on its ability to absorb change. Table 16.4 defines the sensitivity categories that have been applied.

Table 16.4: Receptor Sensitivity Categories

Sensitivity	Definition
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Impact magnitude

16.5.10 The magnitude of each potential impact has been classified based on the findings of the technical analysis. Table 16.5 defines the magnitude categories that have been applied.

Table 16.5: Impact Magnitude Categories

Magnitude	Definition
Major	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
Moderate	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
Minor	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one or more key characteristics, features or elements.

Magnitude	Definition
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
No Change	No loss or alteration of characteristics, features or elements; no observable impact.

Effects significance

16.5.11 The combination of receptor sensitivity and impact magnitude determines the overall impact significance. Table 16.6 shows how this is determined.

Table 16.6: Significance of Impact

Magnitude \ Sensitivity	No Change	Negligible	Minor	Moderate	Major
Negligible	Negligible – Not Significant.	Negligible – Not significant.	Minor – Not significant.	Minor – Not Significant.	Minor – Not Significant.
Low	Negligible – Not Significant.	Minor – Not Significant.	Minor – Not Significant.	Minor – Not Significant.	Moderate – Significant.
Medium	Negligible – Not Significant.	Minor – Not Significant.	Minor – Not Significant.	Moderate – Significant.	Major – Significant.
High	Negligible – Not Significant.	Minor – not significant.	Moderate – Significant.	Major – Significant.	Substantial – Significant.
Very High	Negligible – Not Significant.	Minor – Not Significant.	Moderate – Significant.	Substantial – Significant.	Substantial – Significant.

Limitations of assessment

16.5.12 All analysis is desk-based, no site surveys have taken place. This does not significantly affect the certainty of the results because the information sources are reliable and have, where appropriate, been cross-checked using multiple sources.

16.6 Baseline

Current Baseline

16.6.1 The potential impact of the Proposed Development has been considered in the context of operational developments in the surrounding area. This is appropriate because the goal is to capture any increase in impact caused by the Proposed Development relative to the existing baseline.

16.6.2 The operational Rosehall and Achany Wind Farms are located immediately south-east of the Proposed Development. This means there are currently nineteen operational WTGs with a tip height of 90m above ground level and nineteen operational WTGs with a tip height of 100m above ground level immediately south-east of the Proposed Development.

Future Baseline

- 16.6.3 The potential impact of the Proposed Development has been considered in the context of proposed and consented WTGs in the surrounding area. This is appropriate because the goal is to capture any increase in impact caused by the Proposed Development relative to the future baseline.
- 16.6.4 The consented Braemore Wind Farm is located approximately 5km south-east of the Proposed Development. This means that an additional eighteen WTGs could be located to the south-east of the Proposed Development.
- 16.6.5 The proposed Sallachy and Meall Buidhe Wind Farms are located approximately 9km north-west and 9km south of the Proposed Development respectively.
- 16.6.6 No additional changes to the current baseline have been incorporated into the analysis as all remaining proposed or consented developments are further than 5 nautical miles from the Proposed Development, which is considered the appropriate distance in the context of cumulative radar impacts. The appropriate distances to consider the cumulative effects on Military Low Flying and Physical Obstruction are less than this and are judged on a case-by-case basis.

16.7 Potential Effects

- 16.7.1 This section describes the potential effects on aviation and radar which could result from the construction, operation or decommissioning of the Proposed Development. Inclusion here does not imply that they would occur, or be significant at the Proposed Development, only that they have been considered. Mitigation measures to reduce potential effects are described in Section 16.8 (Mitigation) with an assessment of residual effects, i.e. those remaining after the implementation of mitigation, provided in Section 16.9 (Residual Effects).

Identification of Receptor Sensitivity

Inverness Airport PSR

- 16.7.2 Radar are designed to operate in a dynamic environment. On-airfield radar network is able to accommodate many obstructions (including wind farm developments).
- 16.7.3 Inverness Airport PSR, at a distance of 61km from the Proposed Development, can therefore be described as having moderate capacity to absorb change without significantly altering its present character.
- 16.7.4 This receptor sensitivity is classified as **Medium**.

Military Low Flying

- 16.7.5 Military Low Flying takes place throughout the UK. In some areas, such as Tactical Training Areas, obstacles must be very carefully managed, and development of tall structures can be highly restricted.
- 16.7.6 The area containing the Proposed Development is a high priority for Military Low Flying, which, without appropriate mitigation such as infra-red lighting, is likely to raise considerable and significant concerns for the MOD.
- 16.7.7 The Military Low Flying areas can therefore, in this context, be deemed to have low tolerance to change without detriment to its character.

16.7.8 This receptor sensitivity is classified as **High**.

Physical Obstruction

16.7.9 The Proposed Development is located in an area which is away from the immediate vicinity of an aerodrome and all WTGs are less than 150m agl, which is not considered an enroute obstacle.

16.7.10 The Proposed Development is not expected to be in an operationally sensitive area and can therefore be considered to have a moderate tolerance to change without detriment to its character.

16.7.11 This receptor sensitivity is classified as **Low**.

Summary

16.7.12 A summary of the receptors identified as being sensitive to the Proposed Development and which have been ‘scoped-in’ to the assessment are given in Table 16.7, together with the justification for inclusion.

Table 16.7: Summary of Receptor Sensitivity

Receptor	Sensitivity	Justification
Inverness Airport PSR	Medium	Radar performance can be affected by wind developments. The Inverness Airport PSR as located 61km from the Proposed Development and therefore effects could be experienced if line of sight exists.
Military Low Flying	High	Military Low Flying takes place throughout the UK and potential effects due to large obstructions must be assessed. The ‘high’ sensitivity has been assigned based on its baseline position under the ‘red’ low flying zone.
Physical Obstruction	Low	The Proposed Development is located away from the immediate vicinity of an aerodrome are not considered an enroute obstacle.

Construction Effects

Construction Effects on Inverness Airport PSR

16.7.13 None of the WTGs, once erected, are predicted to be within radar line of sight and would therefore not be detectable.

16.7.14 The impact magnitude during construction is classified as **No Change**.

16.7.15 The resulting significance of impact, in accordance with Table 16.6, is **Negligible** and **Not Significant**.

Construction Effects on Military Low Flying

- 16.7.16 As soon as a WTG tower has been erected as part of the construction of the Proposed Development, it would be considered a new tall structure and a collision risk in the context of low flying activities.
- 16.7.17 The impact magnitude during construction is classified as **Minor**.
- 16.7.18 The resulting significance of impact, in accordance with Table 16.6, is **Moderate and Significant**.

Construction Effects from Physical Obstruction

- 16.7.19 The Proposed Development would not infringe any OLS.
- 16.7.20 No increase in minimum sector altitudes would be required as a result of the Proposed Development and no impacts upon Instrument Flight Procedures or navigation aids are predicted.
- 16.7.21 All WTGs, once erected, would be less than 150m above ground level, which means they are not automatically classified as en-route obstructions.
- 16.7.22 The impact magnitude during construction is classified as **Minor**.
- 16.7.23 The resulting significance of impact, in accordance with Table 16.6, is **Minor and Not Significant**.

Operational EffectsOperational Effects on Inverness Airport PSR

- 16.7.24 None of the WTGs are predicted to be within radar line of sight and would therefore not be detectable.
- 16.7.25 The impact magnitude during operation is classified as **No Change**.
- 16.7.26 The resulting significance of impact, in accordance with Table 16.6, is **Negligible and Not Significant**.

Operational Effects on Military Low Flying

- 16.7.27 The WTGs would be considered tall structures and a collision risk in the context of low flying activities. The Proposed Development would be located in a high priority area for Military Low Flying.
- 16.7.28 The existing Rosehall and Achany Wind Farm developments are located within the low priority Military Low Flying area. No operational developments are located in the same high priority Military Low Flying area as the Proposed Development and therefore no cumulative effects during operation are predicted.
- 16.7.29 The impact magnitude during operation is classified as **Minor**.
- 16.7.30 The resulting significance of impact, in accordance with Table 16.6, and prior to the implementation of mitigation measures, is **Moderate and Significant**.

Operational Effects from Physical Obstruction

- 16.7.31 The Proposed Development would not infringe any OLS.

- 16.7.32 No increase in minimum sector altitudes would be required as a result of the Proposed Development and no impacts upon Instrument Flight Procedures or navigation aids are predicted.
- 16.7.33 All WTGs would be less than 150m above ground level, which means they are not automatically classified as en-route obstructions.
- 16.7.34 The impact magnitude during operation is classified as **Minor**.
- 16.7.35 The resulting significance of impact, in accordance with Table 16.6, is **Minor** and **Not Significant**.

16.8 Mitigation

Construction

- 16.8.1 An appropriate infrared aviation lighting scheme (see Technical Appendix 16.1) will be discussed with the MOD and implemented by the Applicant, by means of a planning condition, post consent. The WTGs would be 'lit' as soon as the nacelle is placed on the top of the tower.

Operation

- 16.8.2 An appropriate infrared aviation lighting scheme will be discussed with the MOD and implemented by the Applicant, by means of a planning condition, post consent.

16.9 Residual Effects

Construction Effects

Residual Effects on Inverness Airport PSR

- 16.9.1 As no mitigation measures are proposed in relation to potential construction effects on Inverness Airport PSR, the residual effect during construction would remain **Negligible** and **Not Significant**.

Residual Effects on Military Low Flying

- 16.9.2 Following the implementation of an appropriate infrared aviation lighting scheme, the collision risk in the context of low flying activities would be reduced.
- 16.9.3 The impact magnitude during construction would reduce to **Negligible**.
- 16.9.4 The residual effect on military low flying during construction would reduce to **Minor** and **Not Significant**.

Residual Effects from Physical Obstruction

- 16.9.5 As no mitigation measures are proposed in relation to potential construction effects from physical obstruction, the residual effect during construction would remain **Minor** and **Not Significant**.

Operational Effects

Residual Effects on Inverness Airport PSR

- 16.9.6 As no mitigation measures are proposed in relation to potential operational effects on Inverness Airport PSR, the residual effect during operation would remain **Negligible and Not Significant**.

Residual Effects on Military Low Flying

- 16.9.7 Following the implementation of an appropriate infrared aviation lighting scheme, the collision risk in the context of low flying activities would be reduced.
- 16.9.8 The impact magnitude during operation would reduce to **Negligible**.
- 16.9.9 The residual effect on military low flying during operation would reduce to **Minor and Not Significant**.

Residual Effects from Physical Obstruction

- 16.9.10 As no mitigation measures are proposed in relation to potential operational effects from physical obstruction, the residual effect during operation would remain **Minor and Not Significant**.

16.10 Cumulative Effects

Inverness Airport PSR

- 16.10.1 As the Proposed Development will not be detectable by the radar, no cumulative effects on Inverness Airport PSR during construction or operation are predicted, considering the current and future baseline.

Military Low Flying

- 16.10.2 Cumulative effects on the Military Low Flying are not predicted during the construction or operational phase of the Proposed Development because the operational and consented developments are not located within the same Military Low Flying area as the Proposed Development, and the proposed developments would be located at a sufficient distance from the Proposed Development.

Physical Obstruction

- 16.10.3 Cumulative effects from physical obstruction are not predicted during the construction or operational phase of the Proposed Development because it is not considered a significant physical obstruction risk in isolation.

16.11 Conclusion

- 16.11.1 This Chapter considers the potential effects on aviation and radar associated with the construction and operation of the Proposed Development. Effects arising from the process of decommissioning have been scoped out since they are of a similar nature to construction issues, but of a smaller scale and likely a shorter duration.
- 16.11.2 Potential effects on aviation and radar during the construction and operation of the Proposed Development were assessed in relation to effects on Inverness Airport PSR, military low flying and physical obstruction. **No significant effects** are predicted with

implementation of appropriate mitigation measures, as outlined in Section 16.8 of this Chapter. Table 16.8 summarises the assessment results for each receptor.

Table 16.8: Summary of Potential Construction Effects

Receptor	Sensitivity	Magnitude of Impact	Significance of Impact	Mitigation Requirement	Residual Effect
Inverness Airport PSR	Medium	No change	Negligible – Not significant	None.	Negligible – Not Significant
Military Low Flying	High	Minor	Moderate – Significant	An appropriate infrared aviation lighting scheme will be discussed with the MOD and implemented by the Applicant, by means of a planning condition, post consent.	Minor – Not Significant
Physical obstruction	Medium	Negligible	Minor – Not significant	None.	Minor – Not Significant

Table 16.9: Summary of Potential Operational Effects

Receptor	Sensitivity	Magnitude of Impact	Significance of Impact	Mitigation Requirement	Residual Effect
Inverness Airport PSR	Medium	No change	Negligible – Not significant	None.	Negligible – Not Significant
Military Low Flying	High	Minor	Moderate – Significant	An appropriate infrared aviation lighting scheme will be discussed with the MOD and implemented by the Applicant, by means of a planning condition, post consent.	Minor – Not Significant
Physical obstruction	Medium	Negligible	Minor – Not significant	None.	Minor – Not Significant

- 16.11.3 The potential effects of the Proposed Development were also considered in the context of existing, consented, and proposed developments in the surrounding area. Based on the results of the cumulative assessment, no significant cumulative effects on aviation or radar are predicted during construction and operation of the Proposed Development.

16.12 References

CAA (2019), CAP 168 Licensing of Aerodromes, Edition 11

CAA (2018), CAP 777 ATC Surveillance Minimum Altitude Charts in UK Airspace Policy and Design Criteria, Version 5

CAA (2016), CAP 764 Policy and Guidelines on Wind Turbines, Version 6

ICAO (2006), Procedures for Air Navigation Services, Aircraft Operations, Volume II Construction of Visual and Instrument Flight Procedures, Fifth Edition

ICAO (2015), European Guidance Material on Managing Building Restricted Areas, Third Edition

NATS AIP (digital resource, various publication dates).