# Technical Appendix 14.4: Glasgow Airport IFP Assessment

## Windburn Wind Farm

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# IFP Safeguarding Report
# Windburn Windfarm

## Glasgow Airport

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# Document Authority

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| IFPD | Gregson S | [redacted] | 20/09/2023 |
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## Document Version History

| Version | Date | Change History |
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| 1.0 Draft A | 20/09/2023 | Initial draft version. |
| 1.0 | 28/09/2023 | No changes from Draft A. |

# Executive Summary

This IFP Safeguarding Report assesses the impact of the proposed Windburn Windfarm on Glasgow Airport's Instrument Flight Procedures (IFPs).

This report is only in respect of the IFPs currently published in the AIP and does not attempt to assess any effect on any possible future changes to the IFPs at Glasgow Airport.

The assessment concludes that the proposed Windburn Windfarm, based on the data provided by Straten CSL, **does not** impact Glasgow Airport's IFPs.

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# 1. Introduction

IFP Design Ltd have been contracted by Straten CSL, via Trax International Ltd, to assess the impact of a proposed windfarm on Glasgow Airport's Instrument Flight Procedures (IFPs).

## 1.1. Design Methodology

This report assesses all Instrument Flight Procedures at Glasgow Airport only.

The windfarm layout area has been supplied by Straten CSL. The layout has been supplied via GIS data files: a Keyhole Markup file and a Shape file.

The highest ground elevation within the layout has been reported as 1772ft and a maximum wind turbine elevation of 149.90m.

As the proposed wind farm is more than 27NM to the northeast of Glasgow Airport this assessment has been conducted on the proposed layout area and not individual wind turbines.

This report only considers the IFP impact from the proposed windfarm and does not include any Aerodrome Obstacle Limitation Surfaces nor any operational ATC or Aerodrome mitigations that may be available.

Wherever possible, data validation checks were carried out to ensure the accuracy of the data.

All the calculations and the drawing constructions were based on design criteria in ICAO Doc 8168 Vol II Edition 7, published in November 2020.

## 1.2. Obstacle Details

The proposed windfarm is to be located approximately 27.75NM northeast of Glasgow Airport's Aerodrome Reference Point (ARP).


**Figure 1: Proposed windfarm location**

## 1.3. Obstacle Data

The data files below have been taken forward for assessment.

| KMZ File | Shape File |
|---|---|
| TurbineDevelopablEArea.kmz | 230906 To AS_SLR - Turbine Development Area.zip |

**Table 1: Proposed Windfarm data files**

# 2. Assessment

The proposed Windfarm was assessed against Glasgow Airport's IFPs. The table below details the results of that assessment:

| IFP | Impact |
|---|---|
| ATCSMAC – All segments | The proposed windfarm is located within ATCSMAC Area A, but its elevation is less than MOCA[1] - MOC[2]. Therefore, there is no impact. |
| STARs | The proposed windfarm's derived MOCA is lower than the lowest end altitude for the STARs. Therefore, there is no impact. |
| MSA – All Segments | The proposed windfarm is located within the 345° - 070° MSA Sector. However, the windfarm derived MOCA is lower than published. Therefore, there is no impact. |
| Holds | The proposed windfarm is located outside all hold protection areas. Therefore, there is no impact. |
| Visual Circling – CAT A | The proposed windfarm is located outside the VMC protection areas. Therefore, there is no impact. |
| Visual Circling – CAT B | The proposed windfarm is located outside the VMC protection areas. Therefore, there is no impact. |
| Visual Circling – CAT C | The proposed windfarm is located outside the VMC protection areas. Therefore, there is no impact. |
| Visual Circling – CAT D | The proposed windfarm is located outside the VMC protection areas. Therefore, there is no impact. |
| Initial Approach RWY05 (Base Turn) | The proposed windfarm is located outside of the initial approach protection areas. Therefore, there is no impact. |
| ILS RWY05 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| LOC ONLY RWY05 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| SRA RWY05 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| NDB RWY05 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| VOR RWY05 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| VSS RWY05 | The proposed windfarm is located outside of the VSS for Runway 05. Therefore, there is no impact. |
| ILS RWY23 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| Initial Approach RWY23 (Reversal) | The proposed windfarm is located outside of the initial approach protection areas. Therefore, there is no impact. |
| LOC ONLY RWY23 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |

[1] MOCA – Minimum Obstacle Clearance Altitude.
[2] MOC – Minimum Obstacle Clearance.

| | |
|---|---|
| SRA RWY23 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| NDB RWY23 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| VOR RWY23 | The proposed windfarm is located outside of the instrument approach procedure protection area. Therefore, there is no impact. |
| VSS RWY23 | The proposed windfarm is located outside of the VSS for Runway 23. Therefore, there is no impact. |
| SID RWY05 | The proposed windfarm is located within the protection area of the PERTH SID only. However, there is no impact. |
| SID RWY23 | The proposed windfarm is located within the protection area of the PERTH SID only. However, there is no impact. |

**Table 2: Obstacle Assessment**

# 3. Conclusion

The assessment concludes that the proposed Windburn Windfarm, based on the data supplied by Straten CSL, **does not** impact Glasgow Airport's IFPs.