Salamander Offshore Wind Farm Offshore EIA Report

Volume ER.A.4, Annex 15.2: Aberdeen Airport IFP Assessment

SALAMANDER

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Aberdeen Airport Instrument Flight Procedure Safeguarding – Salamander Offshore Wind Farm

Safeguarding of Instrument Flight Procedures

Date: 03/10/2023
Author: Liam Clarke (APD)
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Cale House, Station Road Wincanton, Somerset BA9 9FE
01420 520200 / enquiries@ospreycsl.co.uk
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APD	Osprey CSL	Liam Clarke (APD)
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Design Authority	Osprey CSL	Mark Wakeman

Executive Summary

Osprey CSL have been commissioned by by ERM on behalf of Salamander Wind Project Company Ltd (SWPC) to assess the potential impact of a proposed offshore wind farm development named Salamander comprising of wind turbines at an elevation of 325m AMSL on the Instrument Flight Procedures (IFPs) that serve Aberdeen Airport.

The findings are as follows:

IFPs

The proposed Salamander Offshore Wind Farm will have no effect on the published IFPs for Aberdeen Airport.

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Acronyms

Term	Definition
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation And Control
AMSL	Above Mean Sea Level Note 1
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATCSMAC	Air Traffic Control Surveillance Minimum Altitude Chart
DME	Distance Measuring Equipment
IFP	Instrument Flight Procedure
ILS	Instrument Landing System
km	Kilometre
LOC	Localiser
m	Metre
MSA	Minimum Sector Altitude
NDB	Non-Directional Beacon
NM	Nautical Mile
OAS	Obstacle Assessment Surfaces
OD	Ordnance Datum
PSR	Primary Surveillance Radar
RF	Radio Frequency
RWY	Runway
VOR	Very High Frequency Omnidirectional Radio Range
WTG	Wind Turbine Generator

Note 1: In this report Mean Sea Level based on the Newlyn Ordnance Datum (OD)

1 Introduction

1.1 Background

Osprey CSL have been commissioned by Salamander Wind Project Company Limited to assess the potential impact of a proposed offshore wind farm development named Salamander comprising of wind turbines at an elevation of 325m Above Mean Sea Level (AMSL) on the Instrument Flight Procedures (IFPs) that serve Aberdeen Airport.

1.2 Scope of the Assessment

This report assesses the development in relation to the IFPs and has been completed with the use of the Airport's AD 2 – EGPD sourced from the UK AIP, AIRAC 08/2023, effective date 10 AUG 23.

1.3 Proposed Development Site Location & Details

The location of the Offshore Array Areas were provided by the client in .SHP files.

Whilst the layout of the turbines is to be determined the client provided a tip-height of 325m AMSL for the turbines.

325m AMSL was assumed to be the elevation over the entire Offshore Array Area.

1.4 Copyright

1.5 Orientation

The Offshore Array Area is approximately 72.5Km North-East of Aberdeen Airport:

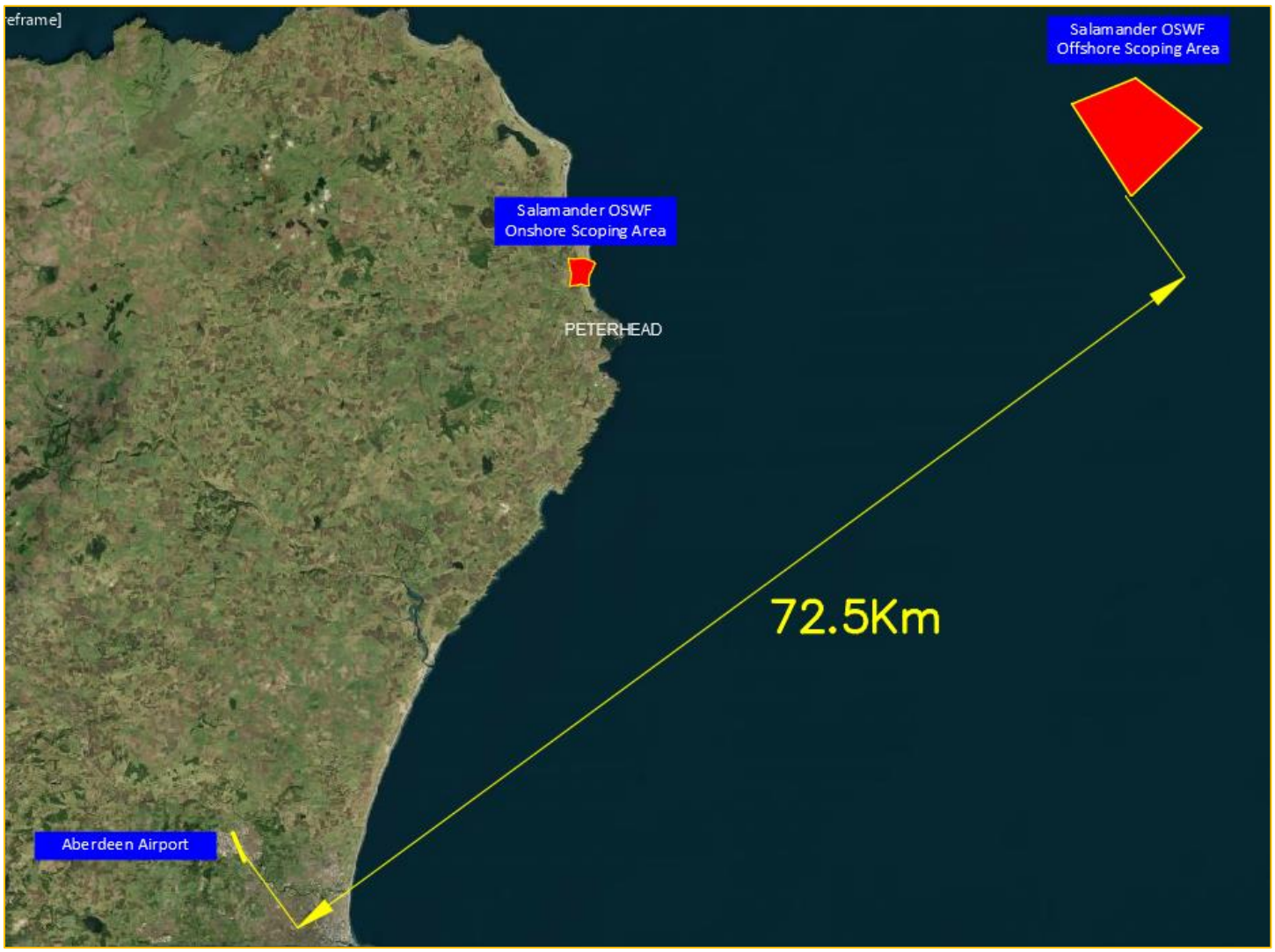

Figure 1 – Location of Salamander Offshore Wind Farm in Relation to Airport

2 Instrument Flight Procedure (IFP) Assessment

2.1 IFP Assessment

The Air Traffic Control Surveillance Minimum Altitude Chart (ATCSMAC) and IFPs assessed are as follows:

AIRAC 08/2023 Effective 10 AUG 2023

- AD 2.EGPD-5-1 ATC SURVEILLANCE MINIMUM ALTITUDE CHART (24 FEB 22);
- AD 2.EGPD-5-2 ATC SURVEILLANCE MINIMUM ALTITUDE TEXT (03 MAR 16);
- AD 2.EGPD-8-1 ILS/DME RWY 16 (03 NOV 22)
- AD 2.EGPD-8-2 LOC/DME RWY 16 (03 NOV 22);
- AD 2.EGPD-8-3 VOR/DME RWY 16 (03 NOV 22);
- AD 2.EGPD-8-4 ILS/DME RWY 34 (03 NOV 22);
- AD 2.EGPD-8-5 LOC/DME RWY 34 (03 NOV 22);
- AD 2.EGPD-8-6 VOR/DME RWY 34 (03 NOV 22);
- AD 2.EGPD-8-7 NDB(L)/DME RWY 34 (03 NOV 22).

2.1.1 Air Traffic Control Surveillance Minimum Altitude Chart (ATCSMAC)

Figure 2 – ATCSMAC

The proposed Salamander Offshore Wind Farm lies outside of the lateral buffer of the ATSMAC.

As identified in Section 2.1.11 the proposed Salamander Offshore Wind Farm is also outside of the lateral extent of the Minimum Sector Altitude (MSA).

There will be no effect on the ATSMAC.

2.1.2 Instrument Landing System (ILS) RWY 16

Figure 3 – ILS RWY 16

The Salamander Offshore Wind Farm lies outside the lateral confines of the Obstacle Assessment Surfaces (OAS) for the ILS, as well as outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

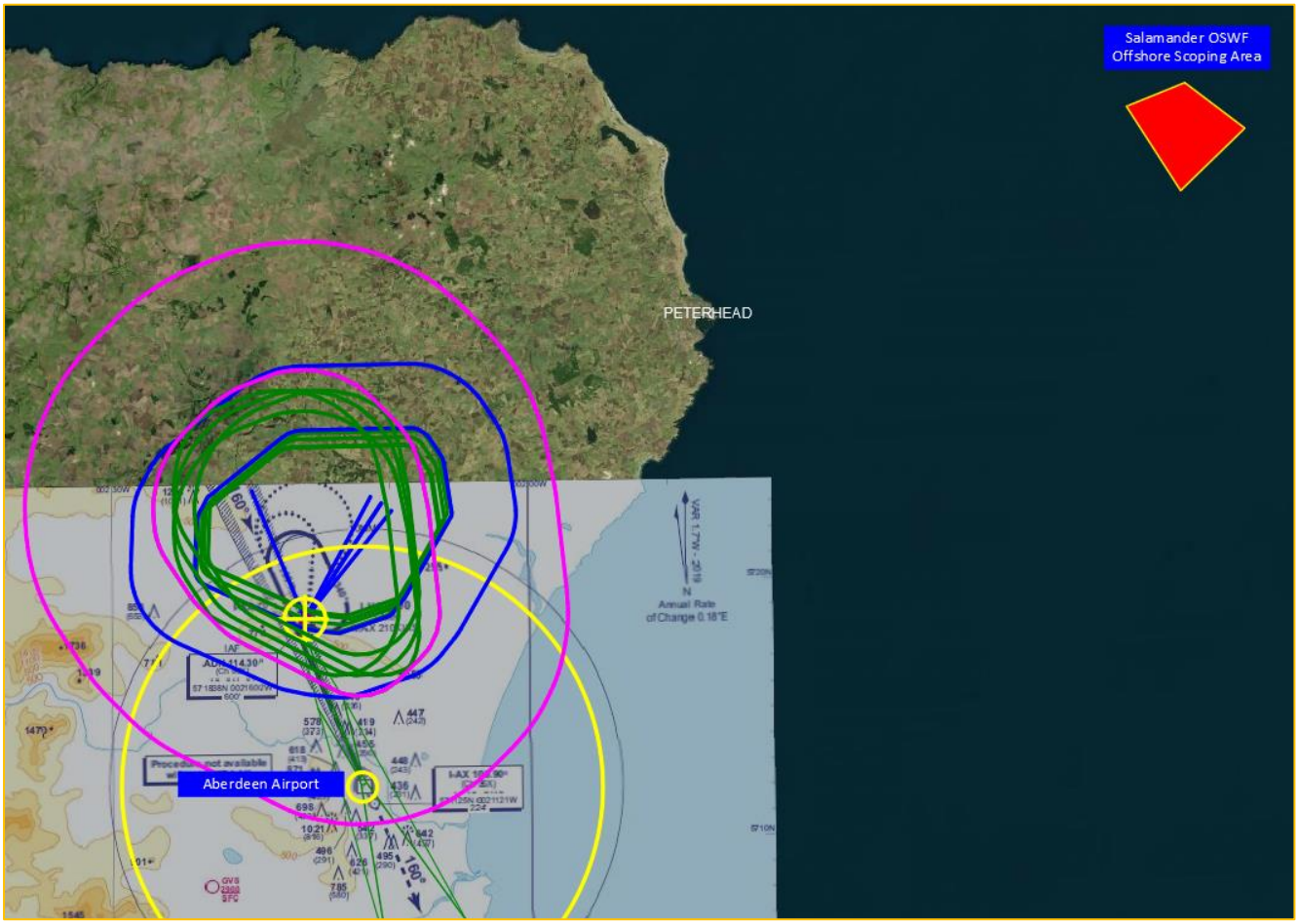

Figure 4 – ILS RWY 16 OAS Surfaces and Protection Areas

There will be no effect on the ILS RWY 16 procedure.

2.1.3 Localiser (LOC) RWY 16

See Section 2.1.2.

The Salamander Offshore Wind Farm lies outside the lateral confines of the Obstacle Assessment Surfaces (OAS) for the ILS, which establish the lateral boundaries of the protection areas used for the LOC. The wind farm is also outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

There will be no effect on the LOC RWY 16 procedure.

2.1.4 Very High Frequency Omnidirectional Radio Range (VOR)/ Distance Measuring Equipment (DME) RWY 16

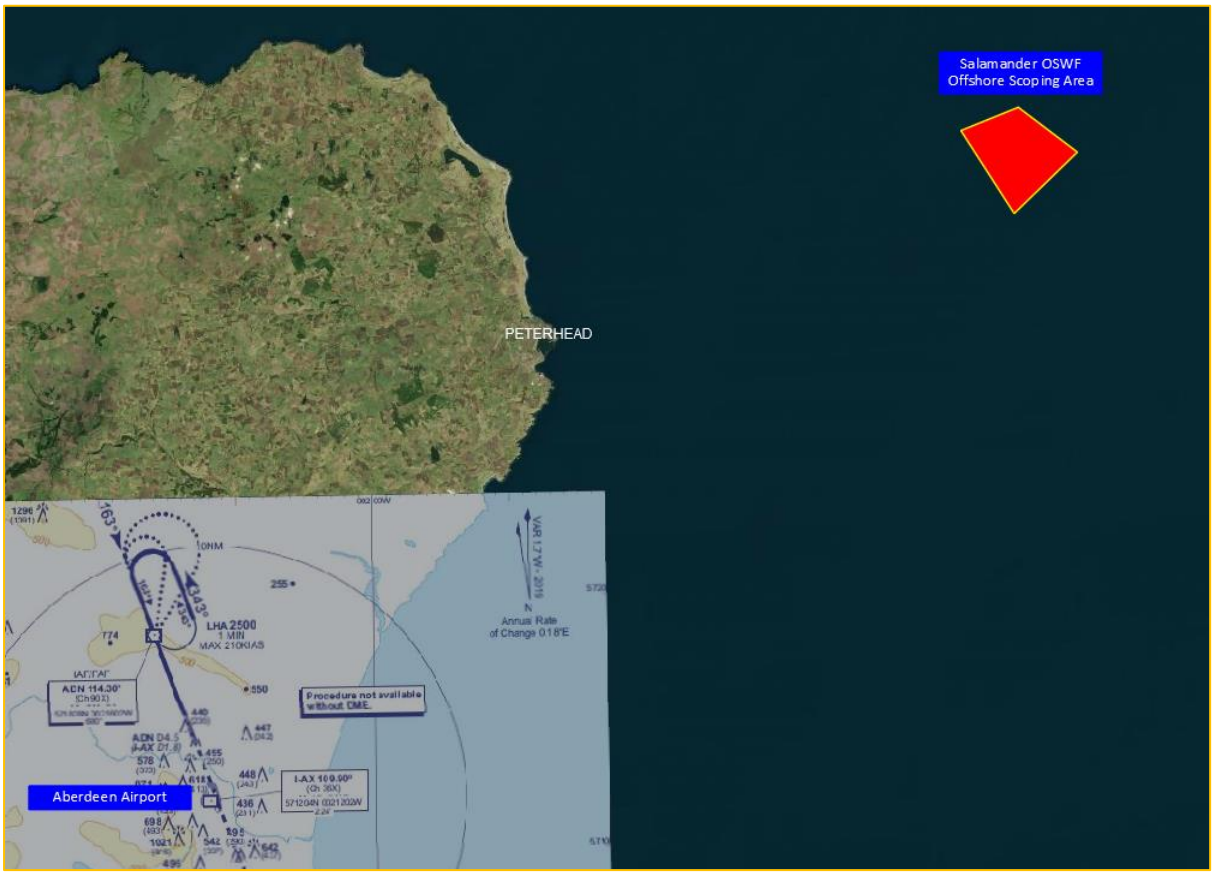

Figure 5 – VOR/DME RWY 16

The Salamander Offshore Wind Farm lies outside the lateral confines of the Final Approach Areas for the VOR Splay, as well as outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

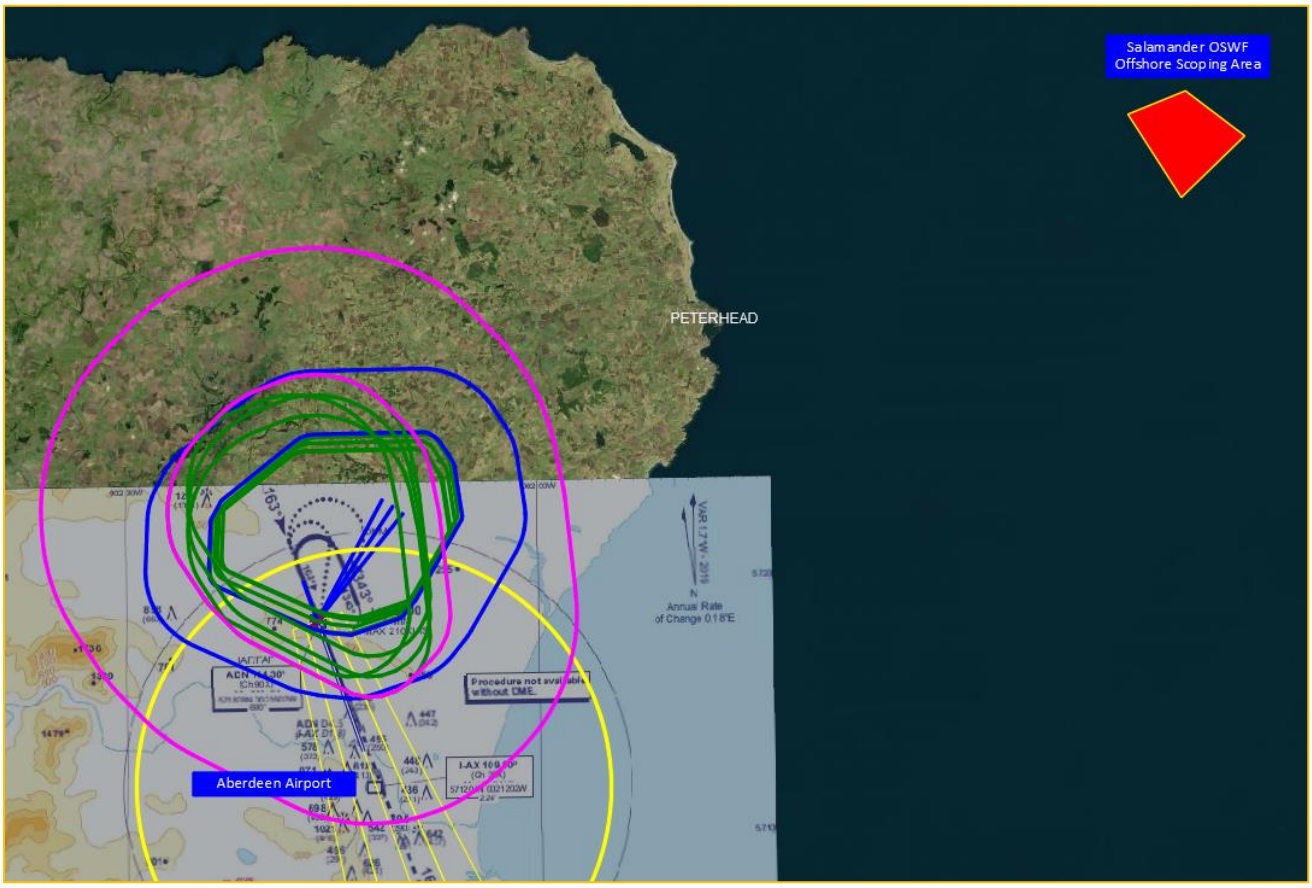

Figure 6 – VOR/DME RWY 16 Protection Areas

There will be no effect on the VOR/DME RWY 16 procedure.

2.1.5 ILS RWY 34

Figure 7 – ILS RWY 34

The Salamander Offshore Wind Farm lies outside the lateral confines of the Obstacle Assessment Surfaces (OAS) for the ILS, as well as outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

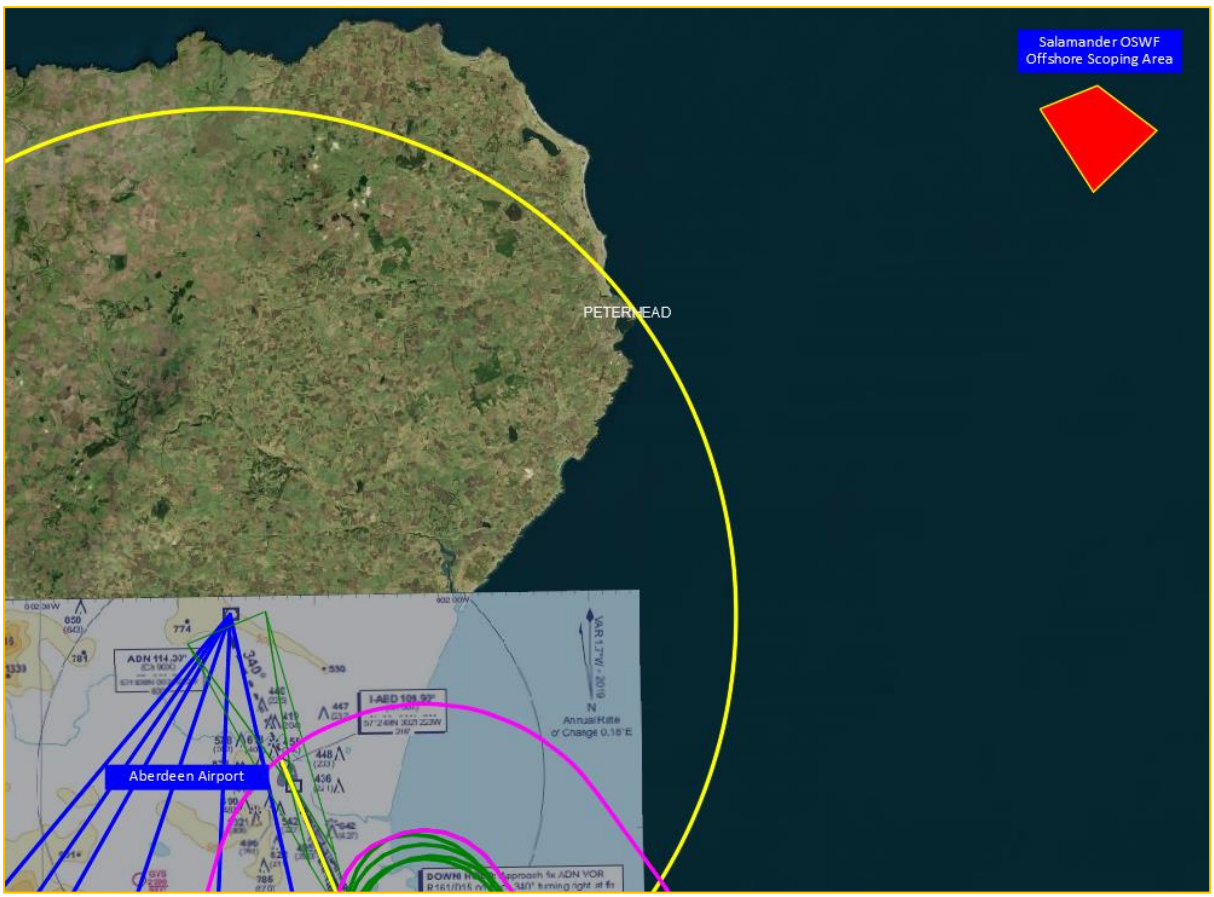

Figure 8 – ILS RWY 34 OAS Surfaces and Protection Areas

There will be no effect on the ILS RWY 34 procedure.

2.1.6 LOC RWY 34

See Section 2.1.5.

The Salamander Offshore Wind Farm lies outside the lateral confines of the Obstacle Assessment Surfaces (OAS) for the ILS, which establish the lateral boundaries of the protection areas used for the LOC. The Salamander Offshore Wind Farm is also outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

There will be no effect on the LOC RWY 34 procedure.

2.1.7 VOR/DME RWY 34

Figure 9 – VOR/DME RWY 34

The Salamander Offshore Wind Farm lies outside the lateral confines of the Final Approach Areas for the VOR Splay, as well as outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

Figure 10 – VOR/DME RWY 34 Protection Areas

There will be no effect on the VOR/DME RWY 34 procedure.

2.1.8 Non-Directional Beacon (Localiser) (NDB(L))/DME RWY 34

Figure 11 – NDB(L)/DME RWY 34

The Salamander Offshore Wind Farm lies outside the lateral confines of the Final Approach Areas for the NDB Splay, as well as outside the Missed Approach Areas and the Initial Approach Segment Areas (including the racetrack and the alternative base-turn initial segment).

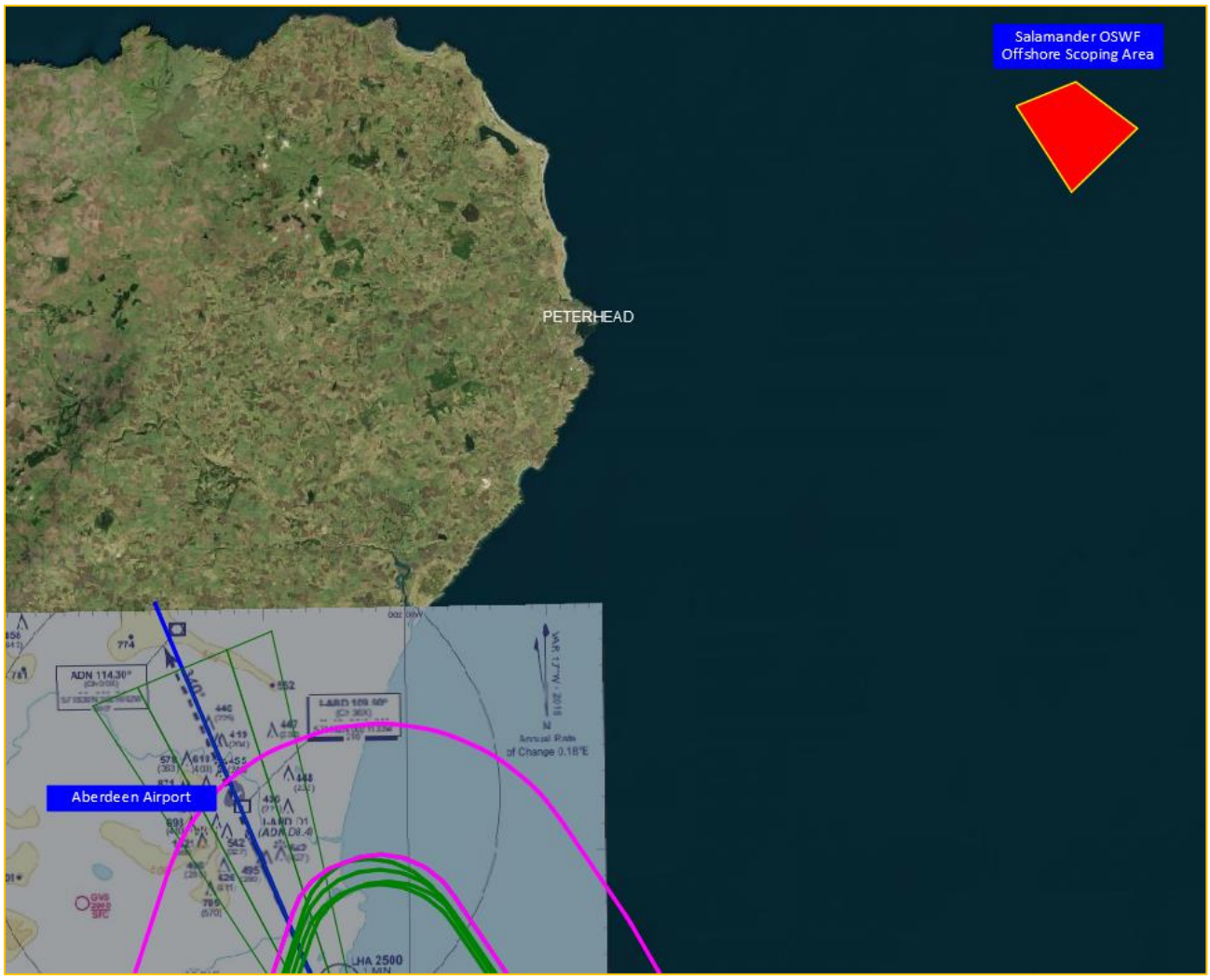

Figure 12 – NDB(L)/DME RWY 34 Protection Areas

There will be no effect on the NDB(L)/DME RWY 34 procedure.

2.1.9 Circling

Figure 13 – Circling

The Salamander Offshore Wind Farm lies outside the lateral confines of the circling areas for Aircraft Categories A, B, C and D.

The Salamander Offshore Wind Farm would not affect the Circling.

2.1.10 Holding

As analysed in the Instrument Approach Procedures, the Salamander Offshore Wind Farm lies outside all the holding / racetrack protection areas and their associated buffers – therefore would not affect any of the Holdings for Aberdeen Airport.

2.1.11 Minimum Sector Altitude (MSA)

The Wind farm lies outside of the lateral extent of both the MSA (ARP) and MSA (NDB call sign: ATF) areas:

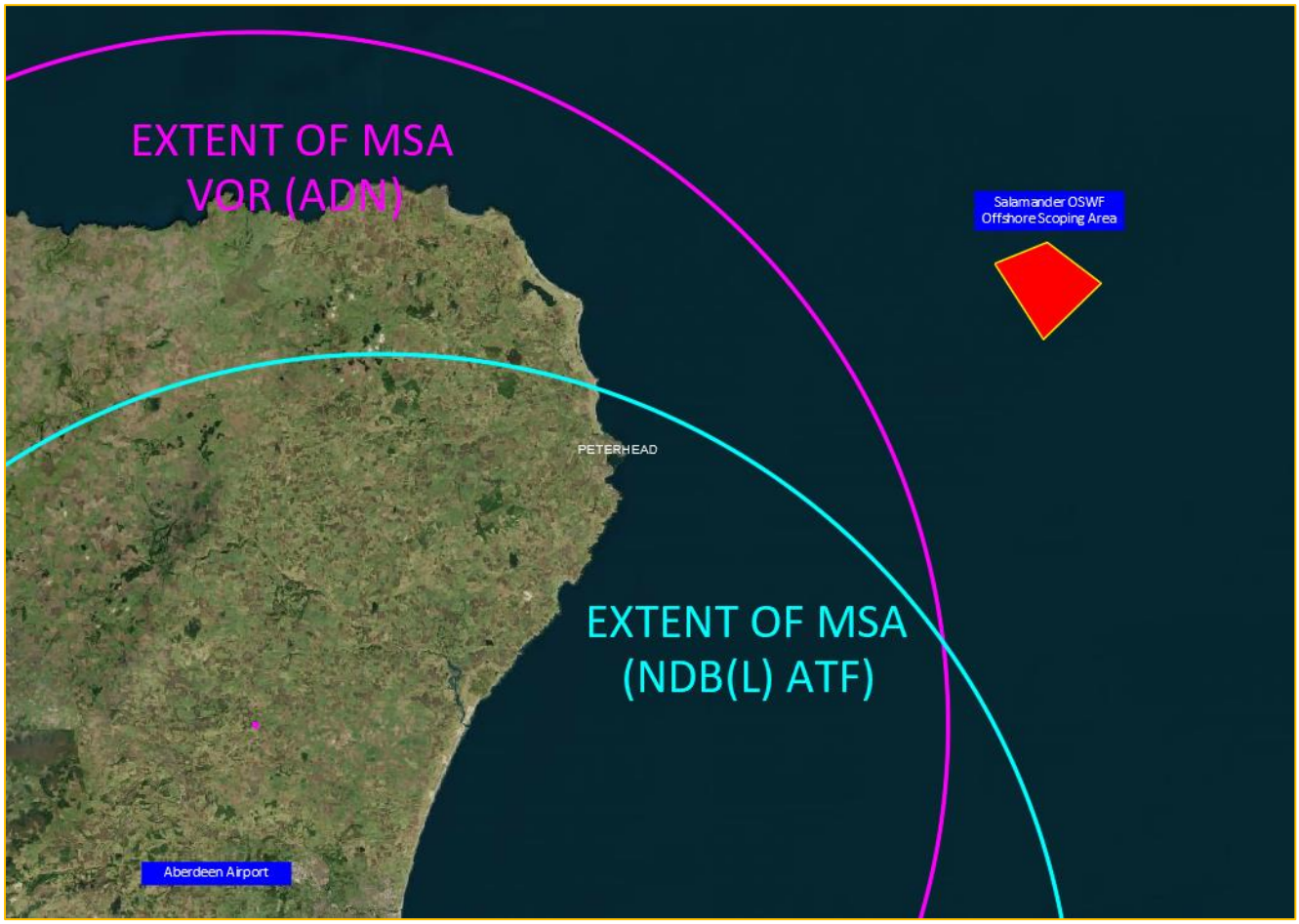

Figure 14 – Wind Farm vs VOR ADN and NDB (L) ATF MSAs

The Salamander Offshore Wind Farm would not affect the VOR ADN MSA.

The Salamander Offshore Wind Farm would not affect the NDB(L) ATF MSA.

2.1.12 Visual Segment Surface

The Salamander Offshore Wind Farm lies outside the obstacle protection areas associated with the Visual Segment Surfaces.

There will be no effect on the Visual Segment Surfaces.

3 Summary

The proposed Salamander Offshore Wind Farm will have no effect on the published IFPs for Aberdeen Airport.