

**Gateway Documentation:  
Stage 1 Define**

**Step 1B Design Principles  
Stakeholder Engagement Feedback**

Moray Offshore Windfarm (West) Limited  
ACP-2019-72



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#### Publication history

Issue	Month/Year	Changes this issue
Issue 0.1	May 2020	Document written, considering feedback from engagement exercises. Draft distributed to stakeholders for review.
Issue 1.0	May 2020	Submitted to CAA, CAP1616 Stage 1B Gateway
Issue 2.0	June 2020	Updated following feedback from the CAA; the following were updated: <ul style="list-style-type: none"> <li>- Table 1 updated to include neighbouring ATC units and airports</li> <li>- Annex A headings to include neighbouring ATC units and airports.</li> </ul>

#### Contents

1.	Introduction.....	3
2.	Document Layout.....	3
3.	Executive Summary – List of Design Principles.....	5
4.	Airspace Design Principles: Feedback and Evaluation.....	6
5.	Engagement Evidence .....	14
6.	Conclusion.....	16
	Annex A: Engagement Activity .....	17
	Annex B: Glossary of Terms .....	32

## 1. Introduction

Within the requirements of the CAP1616 airspace change process, an airspace change sponsor needs to identify and communicate the Design Principles (DPs) which are to be applied to the airspace change design.

This document aims to outline draft DPs for feedback from stakeholders for the proposed windfarm development at the Moray West site, to ensure a good level of understanding by change sponsors as to what design considerations are important to stakeholders.

This forms part of the document requirements for the CAP1616 airspace change process, Stage 1 Define Gateway: Step 1B Design Principles. This document may be read in conjunction with Step 1A documentation and the [Statement of Need](#).

Moray Offshore Windfarm (West) Ltd (MOWWL) are proposing a new offshore windfarm development in the Moray Firth, 22.5 km off the Caithness coast. It has been identified that this windfarm will have the potential to create radar clutter and impact on Air Traffic Services, and a mitigation solution is required.

Draft DPs have been proposed and distributed to stakeholders for feedback and comment, along with some context as to the purpose behind them. NATS on behalf of MOWWL emailed them to industry stakeholders, in order to engage with them and enable understanding of the design considerations that are important to them.

MOWWL made it clear that these proposed draft DPs were for discussion, and that we would welcome feedback to inform the final DPs. Feedback was received from 8 stakeholders.

This document describes how stakeholders' feedback has influenced the DPs for the MOWWL Development.

A priority has been assigned to each DP based on the feedback received and whether it is required to comply with the principal, as in the case of Safety (DP1) or Policy (DP12). The priorities used are rated *High*, *Medium* and *Low* as indicated in Section 3 next to each DP.

Engagement on specific design concepts/options will be carried out in Stage 2, with formal consultation occurring in Stage 3. The design concepts will be evaluated against the final DPs as presented herein.

## 2. Document Layout

The Executive Summary lists the DPs, amended as a result of feedback, and includes additional DPs added as a result of suggestions from stakeholders.

Section 4 discusses each DP in turn. In accordance with recommended engagement/consultation practice<sup>1</sup> this is structured as follows:

- We asked* The original discussion text of each draft DP (we sent this out, stakeholders provided feedback)
- You said* A summary of how feedback has influenced the DP
- We did* Amended final DP

This is repeated for each DP.

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<sup>1</sup> Recommended by the Consultation Institute



Section 5 summarises the engagement activity, numbers of responses and key stakeholders who were included in the engagement.

### 3. Executive Summary – List of Design Principles

The following list summarises the final DPs which have resulted from engagement with relevant stakeholders. Priorities are indicated in brackets. These priorities will be considered when the DPs are used to evaluate/rank design options in the later stages of the airspace change process. How the DPs have evolved is described in detail in the next sections of the document.

No	Design Principle	Category	Notes
1	Maintain or enhance current levels of safety. (High)	Safety	
2	Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries. (Medium)	Operational	
3	Airspace change should maintain or enhance operational resilience of the ATC network. (Medium)	Operational	
4	Airspace change should have minimal impact on operations/capacity of Aircraft Operators and ANSPs. (Medium)	Operational	
5	The airspace change should be compatible with the requirements of the MoD. (Medium)	Operational	
6	Minimise impact on CO <sub>2</sub> emissions. (Medium)	Environmental	
7	Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft. (Medium)	Environmental	<i>Due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality.</i>
8	Minimise economic impact on stakeholders. (Medium)	Technical	
9	Airspace change will be based on technology widely available. (Medium)	Technical	<i>This technology could relate to navigation, radar enhancements, radar data processing, etc.</i>
10	The volume of airspace affected should be the minimum necessary to deliver a safe solution to counter the effects of wind turbine generators on ATC surveillance infrastructure. (Medium)	Technical	<i>Seek to create simple, easily definable solution.</i>
11	The airspace change should be compatible with the requirements of the Maritime and Coastguard Agency and United Kingdom Search and Rescue operators. (Medium)	Technical	
12	The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance). (High)	Policy	

## 4. Airspace Design Principles: Feedback and Evaluation

### 4.1 DP1 Safety

#### Original discussion text

Maintain or enhance current levels of safety.

#### How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
British Gliding Association	Safety is often quoted as if it were an absolute when in fact it is a complex spectrum of risk and probability. We've seen examples where proposed changes were assessed as improving the safety of those within the area of change while ignoring the safety of those outside the area by creating airspace choke points - in such an example it's important that it's overall aviation safety that's considered (most unlikely to be an issue here). In addition if absolute safety is used as a hard decision point one might find that a one part per million improvement in safety trumped massive inconvenience and cost for all parties. So we'd argue for this and all DPs to be applied in a proportionate and thoughtful way rather than in a rigidly mechanical fashion.	<p>Safety is MOWWL's number one priority. It is recognised that there is a wide spectrum of risks and probabilities which can be combined to assess the probable impact on safety. Any proposed change which results in a decrease in safety would be evaluated proportionately against the relative benefits across all DPs.</p> <p>The purpose of these DPs is to objectively weigh up the pros and cons of each design option against all the DPs. However, it should be noted that some DPs, ie. Safety, <i>will</i> have a higher priority.</p>

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has assigned a **"high"** priority to this principle as the maintenance or, where possible improvement, of safety is at the forefront of any airspace change.

### 4.2 DP2 Operational

#### Original discussion text

Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries.

How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
British Gliding Association	<p>Here we'd argue that a proper examination of the needs of other users might well lead to a conclusion that it is extremely unlikely for non-transponder traffic to be in the airspace in question and that the do nothing (or blank radar clutter by an appropriate means) option would not see a material increase in risk.</p> <p>To help in that proper examination we offer our view that it is currently inconceivable that non-transponding glider traffic would wish to fly in the area in question.</p>	<p>At this stage of the CAP1616 process MOWWL is currently defining the DPs that the airspace change will be evaluated against. Work has not yet started on the design stage of this ACP. As part of the later Step 2A (Options Development), MOWWL is required to develop a comprehensive list of options that address the Statement of Need.</p> <p>Although it is not possible to pre-determine design, MOWWL will provide rationale for all options, before evaluating against the DPs.</p>
MOD	<p>Suggest MOD airspace users need to be included here, specified either in this list or as a separate design principle. There is no DP under the operational category that covers MOD activity.</p>	<p>The addition of the MOD to this DP would not be relevant as they are not in support of "UK Oil, Gas and Renewables industries". DP10 will be moved to DP5 operational.</p>

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has assigned this principle a **"medium"** priority as any impact on other airspace users should be kept to a minimum but not at the expense of safety.

#### 4.3 DP3 Operational

**Original discussion text**

Airspace change will maintain or enhance operational resilience of the ATC network.

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has reviewed the wording of the DP and feels that the use of "will" is too constraining. The DP has been reworded to replace "will" with "should." This DP has been assigned a **"medium"** priority as maintaining the operational resilience of the ATC Network is an important aim of this airspace change.

#### 4.4 DP4 Operational

##### Original discussion text

Airspace change will have minimal impact on operations/capacity of Aircraft operators and ANSPs.

##### How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
Highlands and Islands Airports Ltd	<p>Any impact on operations/capacity at HIAL ATSU's (likely Inverness, Kirkwall and Wick) should be discussed and agreed with HIAL and any impact either removed or mitigated.</p> <p>The HIAL ATMS strategy will result in surveillance capability at Wick and Kirkwall Airports. Similar to the impact on the Allenshill PSR there will be likely interference caused by wind turbine generators to any HIAL solution and we are pleased to note that Moray Offshore Windfarm (West) Limited has agreed with NERL that the planned wind farm development should not be built until a suitable Primary Radar Mitigation Scheme (PRMS) mitigation has been established.</p> <p>The PRMS mitigation must satisfy any impact on HIAL surveillance solutions.</p>	<p>This process has been initiated to resolve a conditional planning consent. During the consenting process for the Moray Offshore Windfarm (West) it was identified that this development had the potential to impact on the Allanshill Primary Radar. It is a planning condition for this development, that a Primary Radar Mitigation Scheme must be established to mitigate the impacts raised during the consenting process on current infrastructure prior to the Moray Offshore Windfarm (West) being built. The ATMS issues raised here are more appropriate to discuss during the stage 2 design options development.</p>

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has reviewed the wording of the DP and feels that the use of "will" is too constraining. The DP has been reworded to replace "will" with "should." MOWWL has assigned this principle a "medium" priority as reducing operational impact is the justification behind this ACP.

#### 4.5 DP5 Environmental

##### Original discussion text

Minimise impact on CO<sub>2</sub> emissions



**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has assigned this principle a “medium” priority as the reduction of global CO<sub>2</sub> emissions is an important environmental objective.

#### 4.6 DP6 Environmental

##### Original discussion text

Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft. (Note: due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality)

##### How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL'S Response
NATS En-route Ltd	<p>The addition of notes here regarding visual intrusion offers the opportunity for objection to the windfarm itself which has already been given planning consent following public consultation. The minimisation of environmental impact should therefore be linked to the unfettered access to the airspace by suitably equipped aircraft.</p> <p>The design principle associated to noise below 7000ft amsl relates to a level 1 ACP. I would be very surprised if this change has been classified as a level 1 given the descriptor associated to level 2 (copied below) taken from Table 2 of CAP1616.</p> <p>As a result I would be inclined to remove this principle unless the CAA have specifically asked for its inclusion as it opens the potential for public, as opposed to, airspace user only consultation requirements.</p> <p>Level 2: Medium to low impact* changes to notified airspace design A change that does not have the potential to alter traffic patterns below 7,000 feet over an inhabited area§</p>	<p>MOWWL remains committed to minimising impacts to stakeholders on the ground. Although we anticipate that this will be a Level 2B Airspace Change (<a href="#">Minutes of Assessment meeting</a>) this will not be confirmed until later in the process. This DP relates to the environmental impact of proposed airspace changes put forward in this ACP. Hence it does not offer a route for objection to the windfarm. Visual intrusion in this context relates only to the visual intrusion of aircraft in a region.</p>

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has assigned this principle a **“medium”** priority as minimising environmental impact is an important environmental objective.

#### 4.7 DP7 Economic

##### Original discussion text

Minimise economic impact on aircraft operators.

##### How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL’s Response
British Gliding Association	Minimise economic impact on aircraft operators. We don't see why this laudable objective should apply only to aircraft operators. It ought logically to extend to all parties including Wind Farm Operators, ATC units, ANSPs, Sporting and Recreational Aviation etc. To help in assessing this we would offer that we do not conceive of any costs accruing to gliding.	MOWWL agrees that any new airspace change should minimise economic impact on all stakeholders and will change the wording of the DP to read <i>“stakeholders”</i> as opposed to <i>“aircraft operators”</i> .
Highlands and Islands Airports Ltd	Agreed. As above, any impact on aircraft operations at HIAL Airports (likely Inverness, Kirkwall and Wick) should be discussed with HIAL and its operators. Any economic impact which threatens the viability of an aircraft operator is counter intuitive and must be avoided.	MOWWL acknowledges the feedback and will continue to engage with stakeholders throughout the CAP1616 process. MOWWL cannot guarantee there will be no economic impact to Aircraft operators. This DP will seek to minimise this as much as possible, but compromises may be required.

**Summary and priority:** In response to feedback received, the wording of this DP has been updated to read *“Minimise economic impact on stakeholders”* as opposed to *“on aircraft operators.”* MOWWL has assigned this DP a **“medium”** priority as the economic impact to stakeholders should be kept to a minimum.

#### 4.8 DP8 Economic

##### Original discussion text

Airspace change will be based on the latest technology widely available. (Note: This technology could relate to navigation, surveillance enhancements, radar data processing, etc)

How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
NATS En-route Ltd	If the solution were to lie with the technical capabilities associated to surveillance capabilities then an ACP would not be required. The very fact that we can not mitigate the impact to our infrastructure means that we are undertaking this ACP to introduce a TMZ at the request of the developer. If this principle relates to the equipage used within aircraft i.e. ADS-B Out then this should be included instead, otherwise it could be removed as it would prove difficult to demonstrate compliance in a future airspace design.	At this stage of the CAP1616 process MOWWL is currently defining the DPs that the airspace change will be evaluated against. Work has not yet started on the design stage of this ACP. As part of the later Step 2A (Options Development), MOWWL is required to develop a comprehensive list of options that address the Statement of Need. Although it is not possible to pre-determine design options – such as the suggestions made – MOWWL will provide rationale for all options, before evaluating against the DPs.
British Gliding Association	A pedantic application of this wording might be seen to preclude the application of old but perfectly appropriate solutions. We assume that the intent is to consider all including most modern and to select most appropriate for the situation.	MOWWL agrees that a solution should not be precluded just because it is not the latest technology. DP will be reworded to remove <i>"the latest."</i>
Highlands and Islands Airports Ltd	Agreed. The project team should take advantage of emerging technologies, National Strategies and supporting regulation related to surveillance service provision and detection.	In considering all the feedback received, MOWWL feels that any technology employed in this airspace solution should be widely available and not be limited to only the latest.
MOD	Agree – however changes or technology used should not result in the exclusion of any existing airspace users and any impact should be minimised.	MOWWL agrees that airspace users should not be precluded just because they do not have the latest technology. DP will be reworded to remove <i>"the latest."</i>

**Summary and priority:** In response to feedback received, *"the latest"* has been removed from the wording of this DP. MOWWL has assigned this DP a **"medium"** priority as any proposed airspace solution should have minimal impact on all airspace users.

4.9 DP9 Technical

Original discussion text

The volume of airspace affected should be the minimum necessary to deliver requirements, whilst providing optimal safety buffer. (Note: Seek to create simple, easily definable solution)

How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
NATS En-route Ltd	Wording is open to interpretation. I would advocate a change to:  The volume of airspace affected should be the minimum necessary to deliver a safe and efficient solution to counter the effects of wind turbine distortion on ATC surveillance infrastructure.	MOWWL agrees that, in line with CAA policy, the airspace volume should be kept to the minimum required to deliver a safe solution. Any volume of airspace greater than the minimum would not be efficient. The DP will therefore be changed to read " <i>The volume of airspace affected by this change should be the minimum necessary to deliver a safe solution to counter the effects of wind turbine generators on ATC surveillance infrastructure.</i> "

**Summary and priority:** In response to feedback received, the wording of this DP will be updated to read "*The volume of airspace affected by this change should be the minimum necessary to deliver a safe solution to counter the effects of wind turbine generators on ATC surveillance infrastructure.*" MOWWL has assigned this DP a "**medium**" priority as any change affecting a greater volume of airspace could unnecessarily impact on airspace users.

#### 4.10 DP10 Technical

**Original discussion text**

The airspace change will be compatible with the requirements of the MoD.

How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
NATS En-route Ltd	Compatible with or minimise impact to?	MOWWL has reviewed the wording of this DP and agrees that its current wording may be too constraining. The DP will be reworded to replace " <i>will</i> " with " <i>should</i> "
Highlands and Islands Airports Ltd	Agreed, but also of the HIAL Air Traffic Management Strategy which aims to install surveillance capability for use as part of an Approach Control Service to Wick and Kirkwall Airports. Contact detection must not be compromised	MOWWL considers that a compromise in contact detection to ANSPs is covered under DP4- Airspace change should have minimal impact on operations/ capacity of Aircraft operators and ANSPs.

**Summary and priority:** In response to feedback received, the wording of the DP will be updated to read "*The airspace change should be compatible with the requirements of the MoD*" and be moved to DP5 operational. MOWWL has assigned this DP a "**medium**" priority as it is important that the airspace change does not inhibit the requirements of the MoD.

#### 4.11 DP11 Technical

**Original discussion text**

The airspace change should be compatible with the requirements of the offshore helicopter operation supporting the UK Oil, Gas and Renewables industries.

#### How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
Highlands and Islands Airports Ltd	Agreed, but also of any commercial scheduled traffic operating in the vicinity of the proposed windfarm site to and from HIAL Airports.	MOWWL considers that any impact on commercial aircraft operating in the vicinity of the Moray West site is covered under DP4.- Airspace change should have minimal impact on operations/ capacity of Aircraft operators and ANSPs.

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP; however, on review this DP is considered to be a duplication of DP2 and has therefore been removed.

*Note: DP13 will be inserted as DP11.*

#### 4.12 DP12 Policy

##### Original discussion text

The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance).

#### How has feedback influenced this DP?

Stakeholder	Feedback	MOWWL's Response
NATS En-route Ltd	The CAA policy on the mitigation of wind farm effects is contained within CAP 764 'CAA Policy and Guidelines on Wind Turbines', Ch 4 Potential mitigations. This document is ultimately the reason the ACP is being conducted and therefore should be referenced.	This ACP is being conducted as it has been identified that the Moray (West) windfarm has a potential to adversely impact on the Allanshill Primary Radar. Not all windfarms will require a Primary Radar Mitigation Solution. As this DP is referring to the Airspace Change Process and not the solution – for which design options cannot be considered until stage 2 of the Airspace Change Process– the Air Navigation Guidance is more relevant.
Highlands and Islands Airports Ltd	Agreed, but the proposed change should be future proofed in respect of both emerging and developed Government and CAA strategies and policy such as the Airspace modernisation and EC strategies etc.	The requirement and origins of the process being undertaken by MOWWL are identified above. MOWWL intends that any Primary Radar Mitigation Scheme should be suitable for the infrastructure currently in place and identified during planning for this development. As a CAA process MOWWL anticipate as this progresses it will be integrated and reactive to government and CAA policy.

**Summary and priority:** MOWWL did not receive any feedback which suggested any changes to this DP. MOWWL has assigned this principle a **"high"** priority as we must follow the relevant guidance.

#### 4.13 DP 13 Technical

Proposed new DP (by Bristow Helicopters and MCGA)

The airspace change will be compatible with the requirements of the Maritime and Coastguard Agency (MCGA) and United Kingdom Search and Rescue (UKSAR) operators.

Proposed DP has been reviewed and MOWWL feels it should be included alongside DP10 although the use of “will” is considered to be constraining. This DP has been reworded to replace “will” with “should” and inserted into the DPs as DP11 and has been assigned a “medium” priority as the continued unhindered operation of the MCGA and UKSAR is important.

## 5 Engagement Evidence

MOWWL has engaged with the stakeholders listed in Table 1 below in the development of these DPs. In the initial engagement, feedback was sought on the draft DPs. We received some feedback from stakeholders, with most responses being content with the draft DPs. MCA and Bristow Helicopters together proposed a new DP which has been included as DP11. Table 1 below provides a summary of the engagement activity for this proposal. Engagement evidence is provided in Annex A.

### 5.1 We Asked - Emails to relevant aviation industry interested parties

Emails were sent on 17 April 2020 to 32 organisations, based on National Air Traffic Management Advisory Committee (NATMAC) contacts, local helicopter operators, airports and ATC providers. A return date of 08 May 2020 was set. Table 1 identifies all those contacted. A reminder email was sent on the 1<sup>st</sup> May 2020.

### 5.2 You Said – Stakeholder Responses

The response rate was 25% (8 stakeholders). These can be seen in Table 1.

Three provided feedback on several of the DPs, which has been used to inform DPs 7, 8, 9 and 10. Feedback from the MoD has led to DP10 Technical, being moved to DP5 Operational. A joint response by MCA and Bristow Helicopters has led to the addition of a new DP, inserted as DP11.

Four comments were received around the design, but not specific to the DPs.

### 5.3 We Did

Three stakeholder responses provided comments useable to influence the DPs – included in this document (DPs 7, 8, 9 and 10) and evidenced in Annex A. DP10 Technical was moved to DP5 Operational. Two stakeholders proposed a new DP inserted as DP11.

A draft of this document with the revised DPs was sent to all the stakeholders on 15<sup>th</sup> May 2020. This provided feedback on the two-way engagement and demonstrated the development of the DPs following this engagement.

### 5.4 Key Stakeholders Engagement Record

(Note: any other organisation or individual were welcome to provide input to the DP development process.)

	Stakeholder	Initial Engagement Email Annex A	Response to initial Engagement Email
NATMAC	Aircraft Owners and Pilots Association (AOPA)	Sent 17/04/2020	No Response
	Airlines UK	Sent 17/04/2020	No Response
	Airport Operators Association (AOA)	Sent 17/04/2020	No Response
	ARPAS - Association of Remotely Piloted Aerial	Sent 17/04/2020	No Response
	Aviation Environment Federation (AEF)	Sent 17/04/2020	No Response

	BAe Systems	Sent 17/04/2020	No Response
	BBAC - British Balloon & Airship Club	Sent 17/04/2020	No Response
	BHPA - British Hang gliding & Paragliding Association	Sent 17/04/2020	No Response
	BMAA - British Microlight Aircraft Association	Sent 17/04/2020	No Response
	BMFA - British Model Flying Association	Sent 17/04/2020	No Response
	British Sky Diving	Sent 17/04/2020	No Response
	British Airline Pilots Association (BALPA)	Sent 17/04/2020	No Response
	British Business and General Aviation Association (BBGA)	Sent 17/04/2020	No Response
	British Helicopter Association (BHA)	Sent 17/04/2020	No Response
	BGA- British Gliding Association	Sent 17/04/2020	Response, see Annex A
	GAA- General Aviation Alliance	Sent 17/04/2020	No Response
	Guild of Air Traffic Control Officers (GATCO)	Sent 17/04/2020	No Response
	Heavy Airlines	Sent 17/04/2020	No Response
	Helicopter Club of Great Britain (HCGB)	Sent 17/04/2020	No Response
	Light Aircraft Association (LAA)	Sent 17/04/2020	No Response
	Low Fare Airlines	Sent 17/04/2020	No Response
	MoD DAATM	Sent 17/04/2020	Response, see Appendix B
	PPL/IR (Europe)	Sent 17/04/2020	No Response
	British Airways (BA)	Sent 17/04/2020	No Response
	Helicopter Operators	Babcock Helicopters	Sent 17/04/2020
Bristow Helicopters		Sent 17/04/2020	Response, see Annex A
CHC Scotia		Sent 17/04/2020	No Response
NHV Helicopters		Sent 17/04/2020	Response, see Annex A
Maritime and Coastguard Agency (MCGA)		Sent 17/04/2020	Response, see Annex A
ATC	Aberdeen ATC	Sent 17/04/2020	Voted Approve
	Highlands and Islands Airports Ltd (HIAL)	Sent 17/04/2020	Response. See Annex A
	NATS En Route Limited (NERL)	Sent 17/04/2020	Response. See Annex A
	NATS Prestwick	Sent 17/04/2020	Response. See Annex A
Airports	AGS Airports Limited, Aberdeen	Sent 17/04/2020	Voted Approve
	Wick Airport	Sent 17/04/2020	Response. See Annex A
	Inverness Airport	Sent 17/04/2020	Response. See Annex A

Table 1: MOWWL Stage 1B Engagement Record



## 6. Conclusion

Throughout the DP engagement, we supplied stakeholders with a set of draft DPs, to promote discussion and welcomed their feedback.

We received feedback on some of the draft DPs (DPs 7, 8, 9 and 10) which were amended or moved as a result, and we added an additional DP (DP11). We circulated the revised DPs to all stakeholders.

This evolution has resulted in the list of DPs as detailed in the Executive Summary.



## Annex A: Engagement Activity

### A.1 Initial engagement email 17 April 2020:

Dear Colleague,

I am writing with regards to an Airspace Change Proposal (ACP) which may affect you or your organisation, which NATS are delivering on behalf of Moray Offshore Windfarm (West) Limited, following the CAP1616 Airspace Change Process. We wish to ask you for your feedback on the draft Design Principles (DPs) for the proposed airspace change called 'Moray Offshore Windfarm (West) Limited' ([link](#) to CAA web page).

The Moray West Offshore Windfarm will be situated in the Moray Firth, 22.5 km from the Caithness coast at its closest point. Its approximate location is shown below:



For a description of its scope, see this presentation slide pack ([link](#)).

DPs provide the framework for 'how should we go about designing, what is important to us and to stakeholders'; they do not stipulate 'what sort of thing should we design'.

Below are a set of DPs drafted for the Moray West Offshore Windfarm ACP. It is requested that you review these and provide any comments. Equally, if you have suggestions for additional DPs, we would welcome your input.

If you are content with the proposed DPs, please press the "Approve" voting button or reply "Approve".

If you have comments, please reply to this email and annotate the table below.

#	Design Principal	Category	Notes	Stakeholder Comments
1	Maintain or enhance current levels of safety.	Safety		
2	Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries.	Operational		
3	Airspace change will maintain or enhance operational resilience of the ATC network.	Operational		

4	Airspace change will have minimal impact on operations/capacity of Aircraft operators and ANSPs.	Operational		
5	Minimise impact on CO <sub>2</sub> emissions	Environmental		
6	Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft	Environmental	Due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality	
7	Minimise economic impact on aircraft operators.	Economic		
8	Airspace change will be based on the latest technology widely available.	Technical	This technology could relate to navigation, surveillance enhancements, radar data processing, etc.	
9	The volume of airspace affected should be the minimum necessary to deliver requirements, whilst providing optimal safety buffer.	Technical	Seek to create a simple, easily definable solution.	
10	The airspace change will be compatible with the requirements of the MoD.	Technical		
11	The airspace change should be compatible with the requirements of the offshore helicopter operation supporting the UK Oil, Gas and Renewables industries.	Technical		
12	The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance).	Policy		

We would appreciate your feedback for the Moray West Offshore Windfarm draft DPs by 8<sup>th</sup> May 2020; however, if able, an earlier response would be greatly appreciated. Many thanks for your time and if you have any questions, please contact the undersigned at your earliest opportunity.

Best regards

NATS Airspace Change Team



## A.2 DP Reminder Email 1<sup>st</sup> May 2020:

Dear Colleague,

We recently wrote to you regarding an Airspace Change proposal, Moray Offshore Windfarm (West) Airspace Change Proposal (see below). In light of the ongoing Covid-19 situation we understand that not everyone will be able to respond, however if you are still working and are available to respond we would appreciate your input by 8<sup>th</sup> May 2020.

Kind regards

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Unclassified

NATS Airspace Change Team



**A.3 Final DP Email 15<sup>th</sup> May 2020:**

Dear Colleague,

We wrote to you in April requesting feedback on the draft Design Principles for the Moray Offshore Windfarm (West) Airspace Change Proposal.

Thank you to those who responded and provided invaluable feedback to this process.

Please find attached the response document which contains the final version of the design principles we have submitted to the CAA.

Kind regards

NATS Airspace Change Team



**A.4 Response from NHV Helicopters 17<sup>th</sup> April 2020:**

Approve.



[Redacted]  
UK Flight Operations Manager

T [Redacted]  
M [Redacted]

**A.5 Response from British Gliding Association 20<sup>th</sup> April 2020:**

Good Morning, I am preparing to respond to the current stage of the above ACP on behalf of the British Gliding Association. In keeping with the intent of CAP1616 we believe that it is best to get a good common understanding of the issues at as early a time as possible and that by doing so many potential difficulties can be nipped in the bud to the benefit of all parties.

In order to give an intelligent and considered response we would first wish to fully understand the logical basis of the *raison d'etre* for the ACP.

Our reading of CAP764 (in particular section 1.21.2) implies that you would already have made assessments of the technical and operational needs for mitigation. Could we see a copy of that assessment please?



Best regards

[Redacted]

A6 Response to British Gliding Association 20<sup>th</sup> April 2020

Dear [Redacted],

Thank you for query regarding the Moray Offshore Windfarm (West) Limited ACP. Below is a copy of an extract from the relevant section of the Assessment Documents where NATS engineers assess the proposed windfarms' impact on their service.

### 3.1. En-route radar technical assessment

#### 3.1.1. Predicted impact on Allanshill Radar

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated.

A reduction in the radar's probability of detection, for real aircraft, is also anticipated.

#### 3.1.2. En-route operational assessment of radar impact

Where an assessment reveals a technical impact on a specific NATS radar, the users of that radar are consulted to ascertain whether the anticipated impact is acceptable to their operations or not.

Unit or role	Comment
Aberdeen En Route ATC	Unacceptable
Prestwick Centre ATC	Unacceptable

*Note: The technical impact, as detailed above, has also been passed to non-NATS users of the affected radar, this may have included other planning consultees such as the MOD or other airports. Should these users consider the impact to be unacceptable it is expected that they will contact the planning authority directly to raise their concerns.*

I look forward to receiving your response to the draft design principles.

Kind regards

[Redacted]

A7 Response from British Gliding Association 30<sup>th</sup> April 2020

[Redacted], many thanks for your prompt reply and apologies for my delayed acknowledgement and reply.

I'm aware that I'm asking questions at a pedantic level and that this may seem odd coming from a body most unlikely to be adversely impacted by this particular ACP. We are however concerned about a point of principle and wish to avoid the creation of a universal precedent that wind farms require TMZs.

The technical assessment in 3.1.1 appears to us to be entirely reasonable and understandable - simply stated, the terrain will not prevent radar clutter from the WF.

However the operational assessment as shown in 3.1.2 appears to be more subjective (or just lacking in detail?) with the impact being stated by both NATS and ABD to be "unacceptable".

In this case I suggest that logical analysis in its simplest possible form would be:-

- a) The engineers say that the WF will likely create clutter.
- b) The creation of a TMZ cannot of itself prevent the WF causing clutter.
- c) So users of the radar feed have a choice about what to do about the inevitable clutter, either tolerate it or blank out the area of clutter using software.
- d) Clutter or blanking out parts of the feed means that any non-transponding, non-radio calling traffic could be unknown to ATC.

The underlying case for creation of a TMZ therefore appears to hinge on an assessment of the probability of such traffic being in the area in question. From our knowledge of sporting and recreational aviation (the sector most likely to not be transponder equipped) we would expect this probability to be extremely low, potentially at a level which would make the cost and effort of the ACP unjustifiable for such a small potential impact on flight safety.

If the operational assessment has indeed considered the matter at this level of detail we would be pleased to learn about it before giving our formal response to the DC by 6th May.

Best regards

|

A.8 Response to British Gliding Association 30<sup>th</sup> April 2020:

Dear [REDACTED],

Thank you for your query.

This ACP seeks to implement the best practical solution for mitigating the adverse impacts on the radar systems.

We are currently only at Stage 1 of the CAP1616 process which concerns agreeing Design Principles, ie the priorities by which options will be judged. Discussion and engagement with stakeholders regarding the possible options will be undertaken in detail during Stage 2. At the current stage, we are not permitted to jump ahead to "solution mode". To do so would be out of process and could prejudice the ACP. The relative benefits of using TMZs vs other options will be discussed and evaluated during Stage 2 and we will engage with stakeholders, including the BGA on this at that stage.

Kind regards

[REDACTED]

A9 Response from British Gliding Association 5<sup>th</sup> May 2020

[REDACTED], many thanks for your considered response.

We do understand that this stage of the process precludes "solutioneering" ahead of agreed design principles; in this case there is a fine line between design considerations and understanding the rational for the need for mitigation in the first place.

We have no fundamental issues with the draft DPs, rather we'd add comments to four of the headings as follows:

1 Safety. Safety is often quoted as if it were an absolute when in fact it is a complex spectrum of risk and probability . We've seen examples where proposed changes were assessed as improving the safety of those within the area of change while ignoring the safety of those outside the area by creating airspace choke points - in such an example it's important that it's overall aviation safety that's considered (most unlikely to be an issue here). In addition if absolute safety is used as a hard decision point one might find that a one part per million improvement in safety trumped massive inconvenience and cost for all parties. So we'd argue for this and all DPs to be applied in a proportionate and thoughtful way rather than in a rigidly mechanical fashion.

2. Impact on other users. Here we'd argue that a proper examination of the needs of other users might well lead to a conclusion that it is extremely unlikely for non-transponder traffic to be in the airspace in question and that the do nothing (or blank radar clutter by an appropriate means) option would not see a material increase in risk. To help in that proper examination we offer our view that it is currently inconceivable that non-transponding glider traffic would wish to fly in the area in question.

7. Minimise economic impact on aircraft operators. We don't see why this laudable objective should apply only to aircraft operators. It ought logically to extend to all parties including Wind Farm Operators, ATC units, ANSPs, Sporting and Recreational Aviation etc. To help in assessing this we would offer that we do not conceive of any costs accruing to gliding.

8. Airspace change will be based on the latest technology widely available. A pedantic application of this wording might be seen to preclude the application of old but perfectly appropriate solutions. We assume that the intent is to consider all including most modern and to select most appropriate for the situation.

I hope that these comments are helpful and wish you well with the next stages.

Best regards

(On behalf of British Gliding Association)

A10 Response from NATS En-route and NATS Prestwick ATC 20<sup>th</sup> April 2020:

Hi [REDACTED]

I have checked with our surveillance engineers and have been advised that the initial NERL issues were associated with offshore helicopter provision at low level, given that Aberdeen is being approached separately, I will leave all the technical issues associated to why the ACP is ultimately being undertaken aside and concentrate of the design principles that have been set out.

It is clear from all other ACPs associated to the mitigation of offshore windfarms that the agreed solution is the introduction of a TMZ. Whilst design principles are not supposed to pre-judge the outcome of the design options, in this case the solution to the issue has all but been pre-determined. Additionally, as it is NERLs objection to the impact caused by the construction of a windfarm on its surveillance infrastructure that has resulted in NSL undertaking this ACP on behalf of the developer, then I do not believe it advisable for NERL to provide formal observation on the principles. I have therefore added notes below for consideration.

#	Design Principal	Category	Notes	Stakeholder Comments
1	Maintain or enhance current levels of safety.	Safety		
2	Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries.	Operational		
3	Airspace change will maintain or enhance operational resilience of the ATC network.	Operational		
4	Airspace change will have minimal impact on operations/capacity of Aircraft operators and ANSPs.	Operational		
5	Minimise impact on CO <sub>2</sub> emissions	Environmental		
6	Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft	Environmental	Due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality	<p>The addition of notes here regarding visual intrusion offers the opportunity for objection to the windfarm itself which has already been given planning consent following public consultation.</p> <p>The minimisation of environmental impact should therefore be linked to the unfettered access to the airspace by suitably equipped aircraft.</p> <p>The design principle associated to noise below 7000ft amsl relates to a level 1 ACP. I would be very surprised if this change has been classified as a level 1 given the descriptor associated to level 2 (copied below) taken from Table 2 of CAP1616.</p> <p>As a result I would be inclined to remove this principle unless the CAA have specifically asked for its inclusion as it opens the potential for public, as opposed to, airspace user only consultation requirements.</p> <p><b>Level 2: Medium to low impact* changes to notified airspace design</b></p>

				A change that does not have the potential to alter traffic patterns below 7,000 feet over an inhabited area <sup>5</sup>
7	Minimise economic impact on aircraft operators.	Economic		
8	Airspace change will be based on the latest technology widely available.	Technical	This technology could relate to navigation, surveillance enhancements, radar data processing, etc.	If the solution were to lie with the technical capabilities associated to surveillance capabilities then an ACP would not be required. The very fact that we can not mitigate the impact to our infrastructure means that we are undertaking this ACP to introduce a TMZ at the request of the developer. If this principle relates to the equipage used within aircraft i.e. ADS-B Out then this should be included instead, otherwise it could be removed as it would prove difficult to demonstrate compliance in a future airspace design.
9	The volume of airspace affected should be the minimum necessary to deliver requirements, whilst providing optimal safety buffer.	Technical	Seek to create a simple, easily definable solution.	Wording is open to interpretation. I would advocate a change to:  The volume of airspace affected should be the minimum necessary to deliver a safe and efficient solution to counter the effects of wind turbine distortion on ATC surveillance infrastructure.
10	The airspace change will be compatible with the requirements of the MoD.	Technical		Compatible with or minimise impact to?
11	The airspace change should be compatible with the requirements of the offshore helicopter operation supporting the UK Oil, Gas and Renewables industries.	Technical		
12	The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance).	Policy		The CAA policy on the mitigation of wind farm effects is contained within CAP 764 'CAA Policy and Guidelines on Wind Turbines', Ch 4 Potential mitigations. This document is ultimately the reason the ACP is being conducted and therefore should be referenced.

Regards

[Redacted]

**NATS**

[Redacted]  
Airspace Development

Prestwick Development Team

D: [Redacted]

M: [Redacted]

E: [Redacted]

NATS (Prestwick)  
Freeson Avenue  
Prestwick KA9 2GX  
[www.nats.co.uk](http://www.nats.co.uk)





**A.11 Response from Bristow Helicopters and Maritime and Coastguard Agency 21<sup>st</sup> April 2020:**

Dear Sir / Ma'am,

I've been asked to review the Draft Design Principles for Moray Offshore West as part of the CAP1616 Airspace Change Process on behalf of UK SAR.

At present the Airspace Change refers to MOD and Oil and Gas requirements but doesn't reflect SAR.

There will be an obvious impact to SAR operations notably a heightened Minimum Safety Altitude from 1500ft to c2000ft (which is about the level that our SAR modes cease to operate), radar clutter etc etc over an area of 225 square km. I am also assuming that SAR is probably part of the safety case during construction and operation. I therefore think that UK SAR operators and the MCGA should be referenced in these Design Principles (DP) alongside the MOD and Oil and Gas.

In the DP table below I have included an amendment at row 10 proposing a "technical" inclusion and stating that "the airspace change will be compatible with the requirements of the MCGA and UK SAR operators." The MCGA have a subject matter expert for offshore windfarm design and construction who is specifically appointed as a liaison for such matters (and as such is our suggested point of contact). I have referenced his contact details in the notes column on the table. He will in turn keep us apprised of any matters arising and ensure that the requirements of UK SAR are met.

Please could I ask you to acknowledge receipt of this email to [REDACTED] and [REDACTED]

Kind regards,

[REDACTED]

[REDACTED]

Mob [REDACTED]

Please see below for further info.

Below are a set of DPs drafted for the Moray West Offshore Windfarm ACP. It is requested that you review these and provide any comments. Equally, if you have suggestions for additional DPs, we would welcome your input.

If you are content with the proposed DPs, please press the "Approve" voting button or reply "Approve".

If you have comments, please reply to this email and annotate the table below.

#	Design Principal	Category	Notes	Stakeholder Comments
1	Maintain or enhance current levels of safety.	Safety		
2	Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries.	Operational		
3	Airspace change will maintain or enhance operational resilience of the ATC network.	Operational		
4	Airspace change will have minimal impact on operations/capacity of Aircraft operators and ANSPs.	Operational		
5	Minimise impact on CO <sub>2</sub> emissions	Environmental		

6	Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft	Environmental	Due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality	
7	Minimise economic impact on aircraft operators.	Economic		
8	Airspace change will be based on the latest technology widely available.	Technical	This technology could relate to navigation, surveillance enhancements, radar data processing, etc.	
9	The volume of airspace affected should be the minimum necessary to deliver requirements, whilst providing optimal safety buffer.	Technical	Seek to create a simple, easily definable solution.	
10	The airspace change will be compatible with the requirements of the MCGA and United Kingdom SAR operators.	Technical	<b>Point of contact:</b> ██████████, <b>Offshore Energy Liaison Officer</b> Direct: ██████████ Mobile: ██████████	
11	The airspace change will be compatible with the requirements of the MoD.	Technical		
12	The airspace change should be compatible with the requirements of the offshore helicopter operation supporting the UK Oil, Gas and Renewables industries.	Technical		
13	The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance).	Policy		

**A.12 Response from HIAL, Wick and Inverness Airports 7<sup>th</sup> May 2020:**

Good afternoon,

Thank you for the opportunity to provide comment.

The HIAL Air Traffic Management Strategy programme need to be included as a stakeholder in this process to ensure that appropriate primary radar mitigation is put in place against clutter and other issues the Wind Turbine Generators will cause. The programme aims to deliver Surveillance and associated procedures to an area around EGPC and EGPE to a distance of @ 40nm. Contact details, [REDACTED].

#	Design Principal	Category	Notes	Stakeholder Comments
1	Maintain or enhance current levels of safety.	Safety		Agreed
2	Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries.	Operational		
3	Airspace change will maintain or enhance operational resilience of the ATC network.	Operational		Agreed
4	Airspace change will have minimal impact on operations/capacity of Aircraft operators and ANSPs.	Operational		<p>Any impact on operations/capacity at HIAL ATSUs (likely Inverness, Kirkwall and Wick) should be discussed and agreed with HIAL and any impact either removed or mitigated.</p> <p>The HIAL ATMS strategy will result in surveillance capability at Wick and Kirkwall Airports. Similar to the impact on the Allenshill PSR there will be likely interference caused by wind turbine generators to any HIAL solution and we are pleased to note that Moray Offshore Windfarm (West) Limited has agreed with NERL that the planned wind farm development should not be built until a suitable Primary Radar Mitigation Scheme (PRMS) mitigation has been established.</p> <p>The PRMS mitigation must satisfy any impact on HIAL surveillance solutions.</p>
5	Minimise impact on CO <sub>2</sub> emissions	Environmental		Agreed
6	Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft	Environmental	Due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality	Agreed
7	Minimise economic impact on aircraft operators.	Economic		Agreed. As above, any impact on aircraft operations at HIAL Airports (likely Inverness, Kirkwall and Wick) should be discussed with HIAL and its operators. Any economic impact which threatens the viability of an aircraft operator is counter intuitive and must be avoided.

8	Airspace change will be based on the latest technology widely available.	Technical	This technology could relate to navigation, surveillance enhancements, radar data processing, etc.	Agreed. The project team should take advantage of emerging technologies, National Strategies and supporting regulation related to surveillance service provision and detection.
9	The volume of airspace affected should be the minimum necessary to deliver requirements, whilst providing optimal safety buffer.	Technical	Seek to create a simple, easily definable solution.	Agreed
10	The airspace change will be compatible with the requirements of the MoD.	Technical		Agreed, but also of the HIAL Air Traffic Management Strategy which aims to install surveillance capability for use as part of an Approach Control Service to Wick and Kirkwall Airports. Contact detection must not be compromised
11	The airspace change should be compatible with the requirements of the offshore helicopter operation supporting the UK Oil, Gas and Renewables industries.	Technical		Agreed, but also of any commercial scheduled traffic operating in the vicinity of the proposed windfarm site to and from HIAL Airports.
12	The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance).	Policy		Agreed, but the proposed change should be future proofed in respect of both emerging and developed Government and CAA strategies and policy such as the Airspace modernisation and EC strategies etc.

Best regards,

**Safeguarding Team**

**Highlands and Islands Airports Limited**

Head Office, Inverness Airport, Inverness IV2 7JB

 [REDACTED] (DIRECT DIAL)

 [REDACTED]  [www.hial.co.uk](http://www.hial.co.uk)

**A.13 Response from MOD 7<sup>th</sup> May 2020:**

Hello,

Thank you for the email. Please see MOD comments below in red.

Please let me know if you require further information at this stage,

Thanks,

Regards

[Redacted]

[Redacted] | Sqn Ldr | SO2 Airspace Plans | Defence Airspace and Air Traffic Management | [Redacted]  
[Redacted] | Civilian Telephone: [Redacted] | MOD Net: D [Redacted] | E-  
Mail: [Redacted]

**From:** Airspace Consultation <[airspaceconsultation@nats.co.uk](mailto:airspaceconsultation@nats.co.uk)>

**Sent:** 17 April 2020 12:23

**Subject:** Moray Offshore Windfarm (West) Limited Airspace Change Proposal

Dear Colleague,

I am writing with regards to an Airspace Change Proposal (ACP) which may affect you or your organisation, which NATS are delivering on behalf of Moray Offshore Windfarm (West) Limited, following the CAP1616 Airspace Change Process.

We wish to ask you for your feedback on the draft Design Principles (DPs) for the proposed airspace change called 'Moray Offshore Windfarm (West) Limited' ([link](#) to CAA web page).

The Moray West Offshore Windfarm will be situated in the Moray Firth, 22.5 km from the Caithness coast at its closest point. Its approximate location is shown below:



For a description of its scope, see this presentation slide pack ([link](#)).

DPs provide the framework for 'how should we go about designing, what is important to us and to stakeholders'; they do not stipulate 'what sort of thing should we design'.

Below are a set of DPs drafted for the Moray West Offshore Windfarm ACP. It is requested that you review these and provide any comments. Equally, if you have suggestions for additional DPs, we would welcome your input.

If you are content with the proposed DPs, please press the "Approve" voting button or reply "Approve".

If you have comments, please reply to this email and annotate the table below.

#	Design Principal	Category	Notes	Stakeholder Comments
1	Maintain or enhance current levels of safety.	Safety		
2	Minimise negative impact on other airspace users, specifically GA and helicopters in support of UK Oil, Gas and Renewables industries.	Operational		Suggest MOD airspace users need to be included here, specified either in this list or as a separate design principle. There is no DP under the operational category that covers MOD activity.
3	Airspace change will maintain or enhance operational resilience of the ATC network.	Operational		Agree
4	Airspace change will have minimal impact on operations/capacity of Aircraft operators and ANSPs.	Operational		Agree
5	Minimise impact on CO <sub>2</sub> emissions	Environmental		No comment
6	Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft	Environmental	Due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality	No comment
7	Minimise economic impact on aircraft operators.	Economic		No comment
8	Airspace change will be based on the latest technology widely available.	Technical	This technology could relate to navigation, surveillance enhancements, radar data processing, etc.	Agree – however changes or technology used should not result in the exclusion of any existing airspace users and any impact should be minimised.
9	The volume of airspace affected should be the minimum necessary to deliver requirements, whilst providing optimal safety buffer.	Technical	Seek to create a simple, easily definable solution.	Agree
10	The airspace change will be compatible with the requirements of the MoD.	Technical		Agree
11	The airspace change should be compatible with the requirements of the offshore helicopter operation supporting the UK Oil, Gas and Renewables industries.	Technical		Agree
12	The proposed airspace change will take account of government policy documents (such as the Air Navigation Guidance).	Policy		Agree

We would appreciate your feedback for the Moray West Offshore Windfarm draft DPs by 8<sup>th</sup> May 2020; however, if able, an earlier response would be greatly appreciated. Many thanks for your time and if you have any questions, please contact the undersigned at your earliest opportunity.



Best regards

NATS Airspace Change Team



## **Annex B: Glossary of Terms**

**ACP:** Airspace Change Proposal

**ANSP:** Airspace Navigation Service Provider

**ARA:** Airborne Radar Approach

**ATC:** Air Traffic Control

**ATS:** Air Traffic Services

**CAA:** Civil Aviation Authority – UK Airspace regulator

**CAP:** Civil Aviation Publication

**CAP 1616:** guidance on the regulatory process for changing airspace design including community engagement requirements.

**DP: Design Principles:** these encompass the safety, environmental and operational criteria and the strategic policy objectives that the change sponsor seeks to achieve in developing the airspace change proposal.

**ICAO:** International Civil Aviation Organisation – an agency of the United Nations.

**MOWWL:** Moray Offshore Windfarm (West) Ltd.

**NATMAC:** National Air Traffic Management Advisory Committee - NATMAC is a non-statutory advisory body sponsored by the Directorate of Airspace Policy. The Committee is consulted for advice and views on any major matter concerned with airspace management.

**NATS:** National Air Traffic Services – UK Air Navigation Service Provider

**Statement of Need:** sets out what airspace issue or opportunity this proposed change seeks to address