HIAL Consultation Report

Proposal for the Introduction of CAS Optimisation of IFPs at Inverness Airport

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Prepared for: Highlands and Islands Airports Limited (HIAL)
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Sponsor Addendum Consultation Document.

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Document Details

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Issue 001.02	Paragraph 4.7	30 May 2017	Class E Airspace

Distribution

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Executive Summary

Inverness Airport supports a vital and effective national and international flight network to both the local community and wider Highlands area. Highlands and Islands Airports Limited (HIAL), owner and operator of Inverness Airport, has identified the need for changes to the current arrangements and procedures in the immediate airspace surrounding Inverness Airport. Advances in Air Traffic Management (ATM), airliner navigation and routing procedures plus General Aviation (GA) navigation are driving these changes. The purpose of this proposal is to deliver improved and efficient use of the surrounding airspace and provide procedures' protection to passenger airliners during critical stages of flight into and out of Inverness Airport; some environmental improvements and economic benefits (for airline operators) are anticipated. Arrival procedures for Visual Flight Rules (VFR), including General Aviation (Sports and Recreation) flights, will also be protected.

HIAL has engaged Osprey Consulting Services Ltd (Osprey) to project manage the Airspace Change Process on their behalf. The Inverness Airport airspace change is hereafter referred to as 'the proposal'.

HIAL is developing the Airspace Change Proposal (ACP) in the interest of the travelling public and it's Air Traffic Service provision through the methodology directed by the Civil Aviation Publication (CAP) 725 Civil Aviation Authority (CAA) Guidance on the Application of the Airspace Change Process [Reference 1]. This process requires consultation on the proposed changes with all affected stakeholders. HIAL completed a first stage of consultation on an initial design of Controlled Airspace (CAS) for Inverness Airport in April 2015. Valuable and well-informed feedback was received from all those consulted and analysis of the responses highlighted some common themes. These concerns have led to a significant change in the design, in geographic extent, volume and type, of the proposal for CAS surrounding Inverness Airport in order to increase the flexibility for GA and Ministry of Defence (MOD) VFR operations within and around this CAS.

This document is a Report on the second stage of consultation carried out by HIAL between 5th August and 6th November 2016 in accordance with the requirements of CAA CAP 725 [Reference 1]. It includes an analysis of all submissions received throughout the consultation and identifies the main issues raised by consultees. It also provides HIAL's views in relation to those issues and outlines, importantly, post-consultation action taken, or planned, by HIAL in order to mitigate the concerns reflected in stakeholder responses. This document will form part of the Airspace Change Proposal (ACP) submission to the CAA. The ACP will detail the case for the proposal to amend the current arrangements and procedures in the immediate airspace surrounding Inverness Airport.

Subject of the Consultation

The purpose of this consultation was to gather and analyse the views of the various stakeholders concerning the proposal to amend the current arrangements and procedures in the immediate airspace surrounding Inverness Airport. Fundamentally, the consultation

enabled HIAL to obtain or confirm views and opinions about the potential impact of the proposed airspace amendment.

Consultees

The Consultation Document was circulated to a total of 101 consultee organisations or individuals. Of these, 6 consultation emails were returned as undelivered, making the total number of consultees equal to 95. The aviation consultees included aviation parties such as the MOD, airlines, aircraft operators, adjacent aerodromes, all local airspace users and the national bodies representing all UK aviation interests who may be affected by the proposed changes. National bodies such as the Light Aircraft Association (LAA), the British Airline Pilots' Association (BALPA), and the Airport Operators Association (AOA) were represented through the auspices of the National Air Traffic Management Advisory Committee (NATMAC), sponsored by the CAA. A number of military organisations are also members of the NATMAC.

Non-aviation stakeholders for consultation included environmental and heritage organisations, local planning authorities and the general public. In addition, the views of individual members of the public were welcomed.

Addendum Consultation Statistics

A total of 17 responses (17.9 %) were received from the 95 consultees contacted.

In addition, HIAL received 88 responses from other individual members of the General Aviation (GA) fraternity and other parties who were not included in the formal consultee list.

Of the 105 responses received, 7 consultees supported the proposal; 94 consultees objected to the proposal; and 4 consultees provided a neutral response, whereby the consultee did not object or provided no comments on the proposal.

Next Stages

HIAL will submit a formal proposal, reflecting amendments made to the airspace design to mitigate the expressed stakeholder concerns detailed in this document. The ACP will be submitted to the Safety and Airspace Regulation Group (SARG) of the CAA detailing the case for the airspace proposal once further analysis has been completed.

Following receipt of the formal proposal, the CAA will assess the documentation to determine if there is sufficient information presented on which to base a decision. Thereafter a 16-week period follows during which the CAA conducts its own internal analysis of the final proposal and consultation results, before arriving at a Regulatory Decision.

HIAL extend their thanks to all consultees and other individuals who took the time to participate in this consultation and for their very useful feedback.

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1 Glossary

Acronym	Meaning
ACC	Airport Consultative Committee or Area Control Centre
ACP	Airspace Change Proposal
ADI	Aerodrome Control Instrument
ADR	Advisory Route
AEF	Air Experience Flight
agl	Above ground level
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
amsl	Above Mean Sea Level
AOA	Airport Operators Association
AOPA	Aircraft Owners and Pilots Association
APS	Approach Control Surveillance
AR	Airspace Regulation
ARPAS	Association for Remotely Piloted Aircraft Systems
ASL	Above Sea Level
ATC	Air Traffic Control
ATM	Air Traffic Management or Air Traffic Movements
ATS	Air Traffic Service
AWY	Airway

Acronym	Meaning
BAA	British Airports Association
BABO	British Association of Balloon Operators
BALPA	British Airline Pilots' Association
BATA	British Air Transport Association
BBAC	British Balloon and Airship Club
BBGA	British Business and General Aviation Association
BGA	British Gliding Association
BHA	British Helicopter Association
BHPA	British Hand Gliding and Paragliding Association
BMAA	British Microlight Aircraft Association
BMFA	British Model Flying Association
BPA	British Parachute Association
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Traffic
CCD	Continuous Climb Departure
CDA	Continuous Descent Approach
CFIT	Controlled Flight Into Terrain
CNS	Communication, Navigation & Surveillance
CTA	Control Area (Class D UK Airspace)
CTR	Control Zone

Acronym	Meaning
DAATM	Defence Airspace and Air Traffic Management
DAP	Directorate of Airspace Policy (part of the CAA – now SARG)
DfT	Department for Transport
ELFAA	European Low Fares Airline Association
FAI	Federation Aeronautic International
FAT	Final Approach Track
FIR	Flight Information Region
FL	Flight Level
FLARM	An EASA-approved electronic system used to selectively alert pilots to potential collisions between aircraft. It is not formally an implementation of ADS-B, as it is optimized for the specific needs of light aircraft, not for long-range communication or ATC interaction.
FMS	Flight Management System
ft	Feet
GA	General Aviation
GAA	General Aviation Alliance
GASCo	General Aviation Safety Council
GAT	General Air Traffic
GAPAN	Guild of Air Pilots and Air Navigators
GATCO	Guild of Air Traffic Control Officers
GNSS	Global Navigation Satellite Service
GPS	Global Positioning System
HCGB	Helicopter Club of Great Britain
HIAL	Highlands and Islands Airports Ltd

Acronym	Meaning
HQ DAAvn	Headquarters Director Army Aviation
IAIP	Integrated Aeronautical Information Package
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
IGAFG	Inverness General Aviation Focus Group
IMC	Instrument Meteorological Conditions
LAA	Light Aircraft Association
LEA	London Executive Aviation
LoA	Letter of Agreement
MAA	Military Aviation Authority
MP	Member of Parliament
MSP	Member of the Scottish Parliament
MOD	Ministry of Defence
NATMAC	National Air Traffic Management Advisory Committee
NATS	The National Air Traffic Service Provider
NERL	NATS En-Route Ltd
NCHQ	Navy Command Head Quarters
NM	Nautical Miles
NPC	NATS Prestwick Centre
OS	Ordnance Survey
PAR	Preferred Arrival Route
PBN	Performance Based Navigation

Acronym	Meaning
PDR	Preferred Departure Route
PSR	Primary Surveillance Radar
RAF	Royal Air Force
RMZ	Radio Mandatory Zone
RTF	Radiotelephony
SARG	CAA Safety and Airspace Regulation Group
SERA	Standard European Rules of the Air
SRG	Safety Regulation Group (part of the CAA)
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival
SVFR	Special Visual Flight Rules
TMA	Terminal Control Area
TMZ	Transponder (SSR) Mandatory Zone
UKAB	UK Airprox Board
UKFSC	UK Flight Safety Committee
VFR	Visual Flight Rules
VGS	Volunteer Glider Squadron
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	VHF Omni Directional Radio Range; a type of short-range radio navigation system for aircraft

2 Introduction

This document is a Report of the second stage of consultation carried out by Highlands and Islands Airports (HIAL) between 5th August and 6th November 2016, on the proposed amendment to the current arrangements and procedures in the immediate airspace surrounding Inverness Airport. The aim of this report is to present details on the statistical data arising from the responses to the consultation, together with an analysis of the feedback received.

2.1 General

Inverness Airport supports a vital and effective national and international flight network to both the local community and wider Highlands area. Highlands and Islands Airports Limited (HIAL), owner and operator of Inverness Airport, has identified the need for changes to the current arrangements and procedures in the immediate airspace surrounding Inverness Airport. Advances in Air Traffic Management (ATM), airliner navigation and routing procedures plus General Aviation (GA) navigation are driving these amendments. The purpose of the proposal is to ensure that environmental and economic benefits are achieved through efficient use of surrounding airspace and procedures, providing protection on critical stages of flight following departure and prior to arrival for Instrument Flight Rules (IFR) commercial air transport flights and arrival for Visual Flight Rules (VFR) flights.

The Inverness Airport airspace change is hereafter referred to as 'the proposal'.

HIAL is developing the Airspace Change Proposal (ACP) through the methodology directed by the Civil Aviation Publication (CAP) 725 Civil Aviation Authority (CAA) Guidance on the Application of the Airspace Change Process [Reference 1]. This process requires consultation on the amendment with all affected stakeholders. HIAL completed a first stage of consultation on an initial design of Controlled Airspace (CAS) for Inverness Airport in April 2015. Valuable and well-informed feedback was received from all those consulted and analysis of the responses highlighted some common themes. These concerns have led to a significant change in the design, in geographic extent, volume and type, of the proposal for CAS surrounding Inverness Airport in order to increase the flexibility for GA and MOD VFR operations within and around this CAS.

This document is a Report on the second stage of consultation carried out by HIAL between 5th August and 6th November 2016 in accordance with the requirements of CAA CAP 725 [Reference 1]. It includes an analysis of all submissions received throughout the consultation and identifies the main issues raised by consultees. It also provides HIAL's views in relation to those issues and outlines, importantly, post-consultation action taken, or planned, by HIAL in order to mitigate the concerns reflected in stakeholder responses.

This document will form part of the ACP submission to the CAA. The ACP will detail the case for the proposed amendment to the current arrangements and procedures in the immediate airspace surrounding Inverness Airport.

2.2 Subject of the Consultation

The previous consultation document (HIAL Consultation Document: Proposal for the Introduction of Controlled Airspace and Optimisation of Instrument Flight Procedures at Inverness Airport dated 19th September 2014 [Reference 2]), on the HIAL website[1], provided the full background to the need for a change to the airspace classification and the new procedures that HIAL intends to introduce at Inverness Airport. This document contains information from which stakeholders can gain an understanding of the changes made to the proposed airspace design, and why, and how the new design will affect flight operations.

The changes include:

- Reduction in the lateral extent of the Class D airspace;
- Reduction in the vertical limit of the Class D Control Zone (CTR), previously from surface to Flight Level (FL)95, now surface to 2,000 ft above mean sea level (amsl);
- Reduction in the number of Class D Control Areas (CTA) from seven to six;
- Reduction in the common ceiling altitude of the Class D CTAs from FL95 to 5,500 ft amsl;
- Increase in the number of Class E+ Transponder Mandatory Zone (TMZ) CTAs from two to four, to be contiguous with the Class E + TMZ airways above the Airport forming part of the UK en-route airways structure.

The previously consulted airspace design is presented in Annex A3 to this document.

HIAL, as the sponsor of the proposal, is required to submit a case to the CAA to justify the change in airspace surrounding Inverness Airport. In addition, as part of the CAA's ACP, it is HIAL's responsibility to consult with all relevant stakeholders that may be directly or indirectly, affected by the proposal. This document provides HIAL's views in relation to stakeholder concerns and outlines post-consultation action taken, or planned, by HIAL in order to mitigate these stakeholder concerns.

2.3 Development of the Consultee List

A full list of consultees was developed with the advice of the CAA and is given at Annex A2.

At the start of the consultation, HIAL sent out notification to 101 consultees, comprising:

- 39 members of Aviation "National Organisations" (CAA National Air Traffic Advisory Committee (NATMAC list[2]));
- 18 Airport Users;

[1] www.hial.co.uk/inverness-airport/jet-centre/nats-nautical-information-service/
[2] Includes organisations represented by more than one NATMAC member

- 10 Local Aerodromes/Aviation Consultees;
- 4 Members of the UK Parliament (MP);
- 11 Members of the Scottish Parliament (MSP);
- 13 Council Wards and Local Authorities; and
- 6 Local/National Environmental Organisations.

Of these, 6 emails were returned as undelivered. Therefore, the total number of consultees that received the consultation email was 95.

Further detail on the categories of consultee organisations is provided in Section 3.2 of this report.

2.4 Confidentiality

The CAA Safety and Airspace Regulation Group (SARG) requires that all consultation material, including copies of responses from consultees and others, is included in any formal submission to the CAA of an ACP.

HIAL undertakes that, apart from the necessary submission of material to the CAA and essential use by Osprey for analytical purposes in developing this Report and subsequent ACP material, HIAL will not disclose personal details or content of responses or submissions to any third parties.

2.5 Document Structure

This document contains 6 main sections and 4 Annexes, outlined below for convenience:

- Section 1 provides a glossary;
- Section 2, this section, introduces the document;
- Section 3 details the consultation statistics;
- Section 4 provides an overview of the responses, support ratio and objections raised;
- Section 5 outlines the next stages with respect to the HIAL ACP; and
- Section 6 provides a list of references.
- Annex A1 details the background to this consultation and the consultation methodology;
- Annex A2 lists the consultees; and
- Annex A3 illustrates the previously consulted airspace design (2014 Proposal).

3 Consultation Statistics

The HIAL Airspace Change consultation invitations were circulated to a total of 101 stakeholder consultee organisations or individuals, of which 6 were returned as undelivered. The Second Phase Consultation Document was also posted on the HIAL/Inverness website. A total of 105 responses to this consultation were received, of which 88 were submitted by individuals or parties that were not included in the original consultee list.

3.1 Overview

This section describes the categories of consultee organisations and individuals that were contacted and gives a breakdown of the responses received.

3.2 Consultee Organisations

The HIAL Airspace Change second phase consultation invitations were circulated to a total of 101[3] stakeholder consultee organisations or individuals detailed in Annex A2.

As stated in Section 2.3, 6 consultation emails were returned as undelivered, making the total number of consultees equal to 95.

The consultation document was distributed via a dedicated link on the HIAL website[4] through email to all listed consultees.

Consultees broadly fall into two categories:

- Aviation consultees; and
- Non-aviation consultees.

Aviation consultees included aviation parties such as the MOD, airlines, aircraft operators, adjacent aerodromes, all local airspace users and the national bodies representing all UK aviation interests that may be affected by the proposed changes. National bodies such as the Light Aircraft Association (LAA), British Airline Pilots Association (BALPA), and the Airport Operators Association (AOA) etc. are represented through the auspices of the NATMAC, sponsored by the CAA. A number of military organisations are also members of the NATMAC.

Non-aviation stakeholders consulted include environmental and heritage organisations, local planning authorities and the public. The consultee groups are detailed in Figure 1 below.

[3] It should be noted that NATMAC comprises a total of 39 organisations; this analysis reflects the views of the organisations as a whole and not of the individuals representing them.
[4] http://www.hial.co.uk/inverness-airport/jet-centre/nats-nautical-information-service/

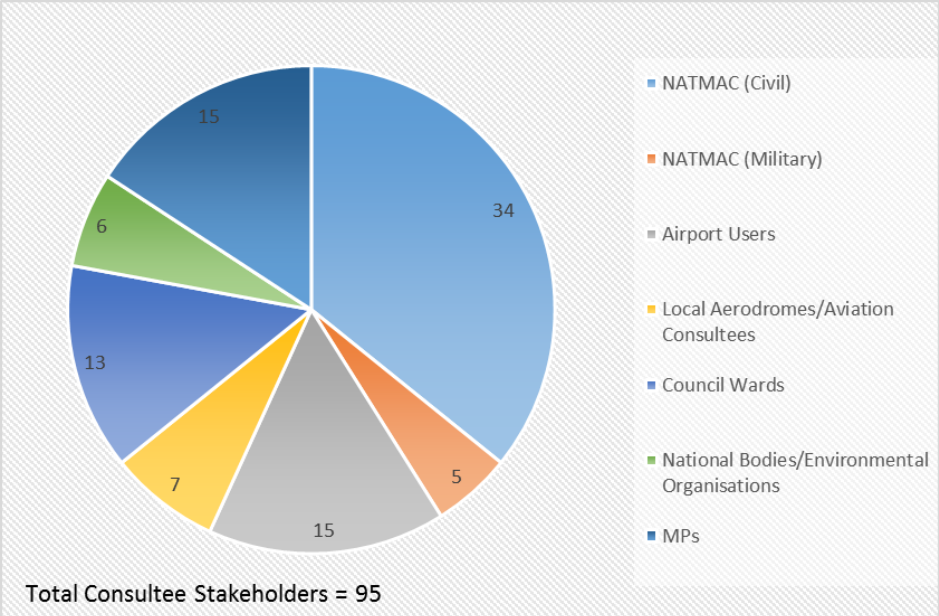

Figure 1 Distribution of Consultees

3.3 Responses

A total of 17 responses (17.9 %) to this consultation were received from consultees. A breakdown of these is provided in Table 1 and Figure 2 below.

	Consultee Group	Number Consulted	Responses	%
1	NATMAC (Civil)	34	7	20.59
2	NATMAC (Military) [5]	5	1	20.00
3	Airport Users	15	4	22.22
4	Local Aerodromes/Aviation Consultees	7	2	20.00
5	MPs	15	1	6.67
6	Council Wards	13	1	7.69
7	National Bodies/Environmental Organisations	6	1	16.67
	Totals	**95**	**17**	**17.9 %**

Table 1 Responses from Consultees

[5] The Defence Aviation and Air Traffic Management (DAATM)

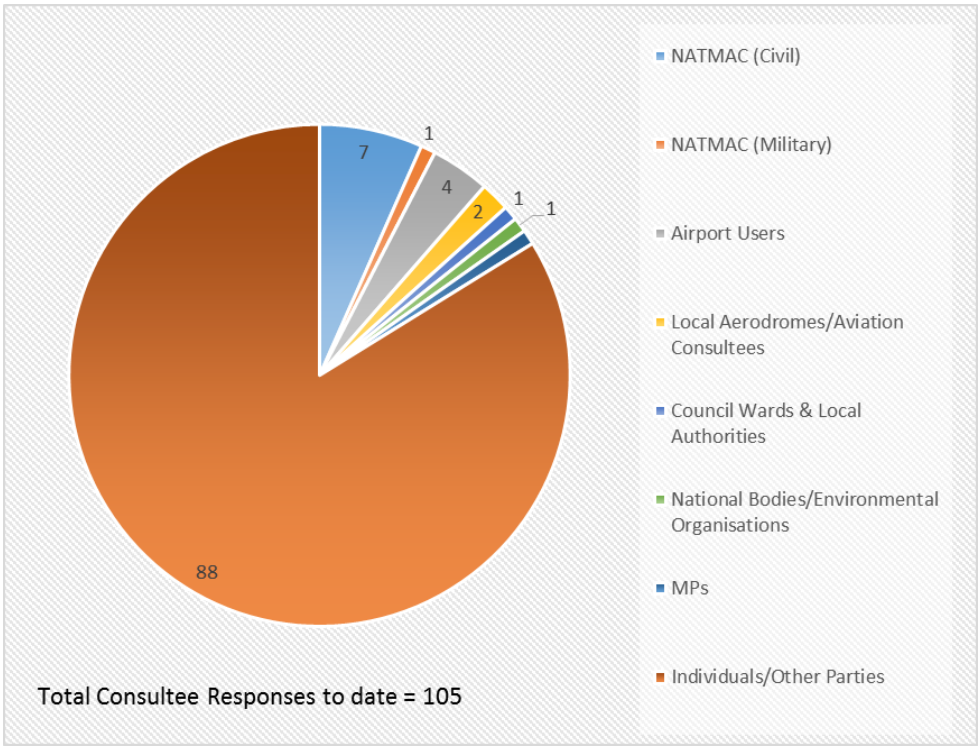

Figure 2 Breakdown of Consultee Responses Received

In addition to the 17 responses received from consultees (distribution shown in Figure 1), a further 88 submissions were received from other individuals or parties that were not included in the original consultee list, making the total number of responses equal to 105.

It should be noted that "NATMAC (Civil)" and "NATMAC (Military)" comprise those organisations who are members of the CAA's NATMAC. The NATMAC consultee list includes some CAA Departments who, for reasons of CAA impartiality, do not respond to consultations.

MOD provided a consolidated response, through Defence Airspace and Air Traffic Management (DAATM), on behalf of all military consultees. This is standard MOD practice. Thus, all military consultees are deemed to have responded.

It is noted that the majority of responses received to date were from individuals that were not included in the formal consultee list detailed in Annex A2.

3.4 Meetings with Major Stakeholders

The Inverness General Aviation Focus Group (IGAFG), met for the sixth time on 31st March 2016 during this phase of the consultation. The meeting discussed various arrangements regarding Letters of Agreement (LoA) associated with the airspace change, Frequency Monitoring Code and the base of the proposed airspace.

Further information on the scale of effect to glider operations at Feshiebridge (home to the Cairngorm Gliding Club (CGC)) and Easterton (home to the Highland Gliding Club (HGC) has been requested.

4 Analysis of Responses

Of the 105 responses received in total, 7 supported the proposal, 94 consultees objected to the proposal and 4 consultees provided a neutral response, whereby they did not object or provide any comments on the proposal.

4.1 Introduction

This section provides details on the number of responses received from the various organisations and individuals consulted. It also explores the support ratio of consultee responses received to give a general indication on the stakeholder acceptance of the proposal.

4.2 Response Support Ratio

Of the 105 responses received during the consultation period:

- 7 consultees (7%) supported the proposal;
- 88 consultees (89%) objected to the proposal; and
- 4 consultees (3.81%) provided a neutral response, whereby the consultee neither objected nor provided comments on the proposal.

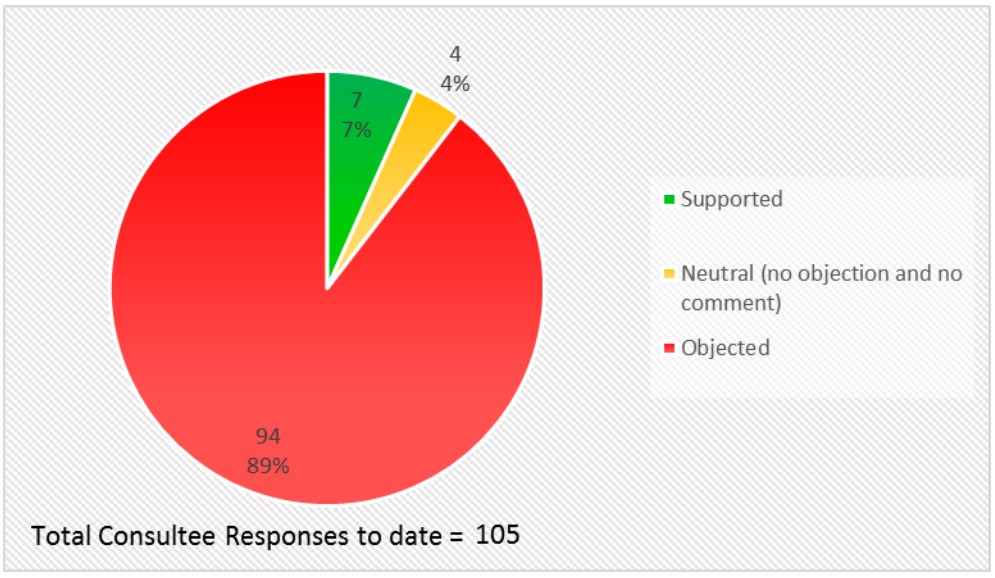

Figure 3 Support Ratio from all Responses Received

4.3 Submissions from Individuals and Other Parties

Of the 88 responses to the consultation received from those not in the formal consultee list, the majority were from GA and private pilots (mainly glider pilots), some of whom are members of a local flying/gliding club. The majority of responses were submitted by members of the Cairngorm Gliding Club located at Feshiebridge in the Spey Valley.

Notwithstanding that their representative organisations may have submitted detailed responses to the consultation on behalf of their membership, all of the additional individual submissions have been documented and analysed by HIAL and will form part of the ACP to be made to the CAA in due course. Any new issues identified in the individual submissions, which had not already been raised by the formal consultees, are embraced within the key issues (Table 4).

Responses were also received from the following gliding clubs that were not included in original consultee list:

- Highland Gliding Club Ltd;
- Scottish Gliding Union; and
- Highland Flying Ltd.

4.4 Key Issues Arising

This response analysis process identified a number of key themes in those responses that objected to the proposal. These are outlined in Table 2 below together with the number of consultees who expressed that view in their response. The majority of responses stated that the proposal was unjustified and disproportionate. This was followed by a large proportion of responses expressing concerns over safety implications of the proposal, followed by issues related to the proposed CAS design.

It was noted that the nature of the issues raised was similar to the ones received during the first round of consultation.

NOISE (7 responses)
Nature of Issue
Increased noise in the evenings and early mornings for houses and villages under proposed flight path.
The proposed Global Navigation Satellite System (GNSS) procedures are less beneficial than the current procedures in terms of noise impact on the ground.
SAFETY IMPLICATIONS (55 responses)
Nature of Issue
The general safety of 'ordinary' pilots is compromised.
Increased pressure to put communication before aviation.

Military low flying traffic will be concentrated into smaller areas alongside VFR traffic, greatly increasing the risk to both.
Proposal fails to demonstrate safety improvements and would compromise safe and efficient GA operations.
Forcing gliders and other GA aircraft into narrow corridors around the airport will negatively impact safety; these corridors tend to be above higher ground.
The requirements of gliders and GA aircraft are not satisfied and would be adversely impacted, with GA pilots avoiding CAS leading to increased Controlled Flight Into Terrain (CFIT) incidents.
Staffing levels and the ability of Inverness to maintain radar coverage for all Airport opening hours.
The proposed Class D CAS will force gliders to operate over '*unlandable*' terrain for longer therefore increasing the risk to pilots.
HEALTH (3 responses)
Nature of Issue
Gliding in Class D airspace is much more stressful gliding than in uncontrolled airspace, due to the nature of unpowered flight, where planned height and direction are affected by the desire to manage energy for the purposes of making progress and ultimately remaining airborne if at all possible.
ENVIRONMENT (10 responses)
Nature of Issue
Most of the projected routes in the proposal would result in an increase in track mileage from those that are typically used at present and are less beneficial than the current procedures.
There is no justification in reducing the current floor of the airspace by over 4,000 ft (almost three quarters of a mile). This will lead to additional noise disturbance and airborne pollution to myself and other residents of the community, which is quite unnecessary.
It is apparent (and admitted by HIAL) that the proposed plans will in fact increase track miles and emissions. HIAL have stated "…the airspace change is expected to cause a net increase in annual CO_2 emissions of 387 tonnes, which will increase a further 29% to 498 tonnes by 2019."
CAS DESIGN (33 responses)
Nature of Issue

The area of controlled airspace is sufficient for a much busier and larger airfield.
The proposed CAS design will prevent access to some of the best soaring conditions for gliders, both thermal and wave; it will prevent access to Class G airspace West and North of Inverness.
Concern that entering Class D CAS would be at the discretion of Inverness Air Traffic Control (ATC) (ATC would find it difficult to accommodate the requirements of gliders).
Unless equipped with GPS difficult to recognise the new Controlled Area (CTA) boundaries, as these are not linked with landmarks.
No safety case supports the proposed CAS design.
Any aircraft forced to route around the proposed CTA would be obliged to make a major detour over 'hostile' territory to the West or out over the Moray Firth to the East some 30 – 40 kms across water.
It is interesting to note that in the USA a similarly sized airport would only have 4nm radius class D airspace to 2500' agl requiring no specific clearance to enter for VFR traffic but only established communication with ATC.
Cloud bases often extend above the base of this proposed zone (CTA-6 & CTA-8) and also gives reduced clearance for transiting high terrain.
The proposed CAS design makes it much harder to pass the airport and reach the area NW of the airport. Cross-country gliding operations, especially to the Outer Hebrides, Skye, the North coast around Tongue and many other far flung destinations will be blocked since although the Class D has been lowered, it still makes it impossible for gliders to fly over if there is any risk of an unavoidable descent into Class D.
COST IMPLICATIONS (28 responses)
Nature of Issue
Requirement for GA to carry Mode S transponders and the resulting cost implications (including the two-yearly checks on transponder operation). The cost of fitting a suitable SSR transponder (approx. £3000) and 8.33 kHz radio (approx. £1500) is disproportionate for many older gliders whose purchase price will typically be less than the price of the extra avionics. Some have neither electrical systems nor spare payload capacity for such things.
Proposal's economic impact on local gliding clubs; less attractive to visitors. By removing access to some of the best soaring areas, gliding clubs will be less attractive to visitors from other UK and European gliding sites and struggle to retain members. Visitors not only contribute substantially to gliding clubs' viability, but also benefit the local tourist industry. .Economic impact on local community, shops, hotels,

restaurants.
UNJUSTIFIED PROPOSAL (62 responses)
Nature of Issue
Proposal is unjustified based on low Air Traffic Movements (ATM) and unrealistic traffic projections.
The amount of CAS being proposed is too extensive for such a small regional airport (Inverness Airport) with low air traffic volumes.
PROPOSED ALTERNATIVE CHANGES (10 responses)
Nature of Issue
Radio Mandatory Zone (RMZ). A simple RMZ should suffice (the majority of GA pilots operate this voluntarily at the moment). It would make much more sense to create a RMZ to ensure traffic flows effectively. RMZ of 5 miles and 10 miles on the extended centre line of the runway would suffice.
FLARM: The rapidly developing FLARM system for collision avoidance, which is relatively cheap, should make it possible to reduce potential conflict with Civil Air Transport (CAT) even more than the statistics of virtually zero conflict in this area show. Most gliders are equipped with FLARM. Instead of a 'Class E +' requiring expensive and power hungry transponders, perhaps a new 'VFR +' should be proposed to the CAA utilising the need for FLARM and radio monitoring 130.10. Could Inverness consider a "FLARM" base station? This could indicate the presence of FLARM equipped gliding traffic with CAT being re-routed in accordance with the Rules of the Air.

Table 2 Nature of Objections Raised by Consultees

It was noted that six consultees who objected to the proposal, supported the establishment of a RMZ as an alternate airspace construct. Four consultees proposed the use of the 'FLARM' system for traffic awareness and collision avoidance.

Table 3 below highlights the specific issues raised regarding the CAS design and presents some solutions proposed by the consultees.

CTA Reference	Nature of Issue	Number of Consultees who Raised Issue
CTA-1	Low-level transit outside the CTR to the south west with a low cloudbase is practically impossible with CTA-1 reaching to the ground at Beinn a'Bheurlaich (1,575 ft).	1
	Is it really expected that departing/arriving aircraft will need to be at 1,500 ft (CTA-1)?	1
CTA-2	CTA-2 with a base at 2,400 ft that would create a 'rat run' along the Cromarty Firth for fast military jets with no obligation to contact Inverness.	1
CTA-3	The dimensions of CTA-3 remove the normally used local GA training area of the low ground lying between Nairn and Forres.	1
	An increase to the base of CTA-3 to 2,500 ft, perhaps with a 1.5nm extension of the CTR to the north east would provide usable training airspace over the coastal strip and in addition provide a 1,000 ft increase in altitude permitted for general aviation aircraft transiting from the Moray coast to Cromarty.	1
	Is it really expected that departing/arriving aircraft will need to be at 1,500 ft (CTA-3)	1
CTA-4	Concern that the proposed base altitude for this CTA is too low.	1
	The dimensions of CTA-4 remove the normally used local GA training area of the low ground lying between Nairn and Forres.	1
CTA-5	Concern that the proposed base altitude for this CTA is too low.	1
CTA-6	This CTA would seriously impact the ability to soar near Feshiebridge Club.	2
	CTA-6 leaves little space between the mountains and the airspace.	1
	Difficult to access airspace in CTA-6 since radio communication with Inverness within the vicinity of these areas will be technically	1

CTA Reference	Nature of Issue	Number of Consultees who Raised Issue
	marginal.	
CTA-7	Is it really expected that departing/arriving aircraft will need to be at 2,200 ft (CTA-7)?	1
CTA-8	Concern regarding the CTA-8 and its proposed base of 6,000 ft above mean sea level (amsl): actual airliners following N560 over Newtonmore (which is within the proposed CTA 8 area) they always appear to be very significantly higher than 6,000ft and I have never sighted an airliner below FL105 in that area while I have been flying.	4
	This CTA would seriously impact the ability to soar near *sic* Feshie.	3
	Cloud bases often extend above the base of this proposed zone and also gives reduced clearance for transiting high terrain.	1
	Existing floor height of CTA-8 at 10,500 ft amsl should be maintained for practical and safety reasons.	1
	CTA-8 is just 3 miles from Cairngorm Gliding Club and 30 miles from Inverness Airport.	2
	Difficult to access airspace in CTA-8 since radio communication with Inverness within the vicinity of these areas will be technically marginal.	1
	The size of CTA-8 is excessive.	1
	CTA-8 covers an area frequently used for wave and thermal soaring.	1
CTA-10	Gliding activity at Feshiebridge Club would be severely affected.	1

Table 3 Specific Issues Raised in Relation to CAS Design

4.5 Ministry of Defence (MoD)

The MOD has no objection to the proposal at this stage. It would wish to see the requirements set out within CAA policy regarding the provision of ATS within

Controlled Airspace[6] undertaken and the LoAs established between RAF Lossiemouth and Inverness prior to implementation.

4.6 Approvals

A total of 7 approvals to the proposal were received throughout the second stage of consultation. These were predominantly from airlines operators who operate flight schedules into Inverness Airport and NATMAC (Civil) consultee subgroups.

4.6.1 Loganair

Loganair fully supports the addition of Inverness Airport's CAS. Loganair's risk assessment for operating in uncontrolled airspace (Class G airspace) is based on a low traffic density and the limited means within its control to mitigate these risks. Loganair go on to state that the most effective method of reducing these risks is to introduce CAS that either:

a) Requires a clearance to enter, creating a known traffic environment (Class D airspace); or
b) Creates an environment where transponder operation is mandatory enabling detection of conflicting aircraft using the on-board Airborne Collision Avoidance System (ACAS) carried by all large Commercial Air Transport Aircraft. (Class E+TMZ Airspace).

The addition of CAS at Inverness introduces both methods of reducing risk, which will ensure the highest levels of practical operating safety. It should be noted that the UK differs from other European countries in that transponder carriage is not mandatory below FL100. But the GA community need to be assured that access to Inverness CAS for VFR traffic will be considered and any restrictions limited to that required for safety and the implementation of CAS should not be seen as a bar to VFR traffic.

An additional benefit is the introduction of RNAV1 arrival and departure procedures that reduces track mileages, which in turn significantly reduces carbon emissions and reduces the aircraft noise footprint. The RNAV1 arrival to runway 05 from the South is challenging due to the high ground and relatively steep descent. Unless aircraft can remain inside CAS from GUSSI at FL070 the environmental benefits of the RNAV1 arrival may not be realised as aircraft may need to route to overhead Inverness before turning back to complete an approach.

Loganair emphasised that Air Transport to the Inverness area is a vital part of the transport infrastructure and essential to economic development, due to the relatively poor road and rail links to other parts of the United Kingdom and Europe.

4.6.2 BenAir

BenAir is very pleased with operations out of Inverness and agree that CAS is good for its operation and flight safety in general.

[6] https://publicapps.caa.co.uk/docs/33/PolicyStatementATSProvisionInCASByUnitsNotNotifiedAsTheControllingAuthority.pdf

4.6.3 KLM Cityhopper

KLM Cityhopper supports the addition of Inverness Airport's CAS, supported by the following arguments;

a) Providing Commercial Air Transport through uncontrolled airspace (Class G) imposes additional risks. Operators have very limited means within their control to reduce these risks. All safety assessments performed by KLM Cityhopper to date indicate that the most effective measures to mitigate these risks are:
   i. Establishment of airspace class A-D;
   ii. All aircraft operating transponder MODE S in class E.

The addition of Inverness Airport's CAS introduces both mitigating measures at once. These measures will significantly contribute to lower risks for commercial operators and help to achieving the highest level of operational safety.

b) KLM Cityhopper constantly strives to develop and improve its activities together with stakeholders towards a more competitive and sustainable environment. Shorter routings to and from Inverness airport whilst at the same time reducing noise and emissions is only possible with the use of Performance Based Navigation (PBN) techniques, through use of RNAV. KLM Cityhopper aircraft are already capable of executing these procedures. These developments incorporated in the proposal future proof operations and have KLM Cityhopper's full support.

KLM Cityhopper noted the following points during the implementation phase of any Inverness Airport CAS:

c) Implementation of CAS has impact on other airspace users. In order to avoid CAS restrictions (VFR) traffic may circumnavigate the airspace, resulting in higher concentrations of this traffic around the edges. KLM Cityhopper flights may be confronted around point "GUSSI". This is most critical in combination with runway 05 in use. The track miles according the RNAV1 Standard Arrival Transition require KLM Cityhopper flights to be at FL70 at "GUSSI". As such it is important the CTA-8 remains aligned with the airway structure to avoid transition through uncontrolled airspace in these cases.
d) RNAV1 Standard arrival Transition Runway 05 is critical in terms of descent gradient from point "GUSSI". Southerly wind components may result in insufficient room to descend the aircraft in time. Operational concepts, not further explained in the consultation document, should take into account these scenarios. CTA-6 and CTA-7 should be of sufficient dimensions to avoid complicated manoeuvring to final approach runway 05.
e) The airspace design can be marked as efficient. Sufficient slack in the design should however remain available to resolve conflicts with other traffic within the confines of controlled airspace.

It is imperative to activate the proposed Inverness Airport CAS during all opening hours of Inverness airport without exception. This should include radar services for surveillance of the class E + TMZ and Class G airspaces. Only in that way will the new designs safety and environmental benefits be achieved.

4.7 Class E + TMZ Airspace

One of the major changes to the Proposed Inverness Airspace following the first consultation has been the increase in the number of Class E+ Transponder Mandatory Zone (TMZ) CTAs from two to four, to be contiguous with the Class E + TMZ airways above the Airport forming part of the UK en-route airways structure. It has been clear from the responses to this second consultation that a large number of the GA respondents, and this might reflect in part a large majority of the GA community, have not fully recognised the amendment from the initial consultation. Furthermore, respondents have not understood the flexibility, and safety advantages, derived from Class E + TMZ airspace when the pilot is operating a serviceable transponder.

CTAs – 2, 6, 8 & 10, a large majority of the proposed Inverness CAS is Class E + TMZ airspace providing entry for VFR aircraft, including GA aircraft, operating a serviceable transponder, without the necessity of a 'clearance' from Inverness ATC and the airspace will remain largely available to all aircraft. Those VFR aircraft with a VHF radio, without a serviceable transponder, would inform Inverness ATC in the normal way of their position and request to transit a CTA.

4.8 Objections

A total of 94 objections to the proposal were received throughout the second stage of consultation. The consultee types and respective numbers are given below:

- 5 objections from NATMAC (Civil) consultees;
- 87 objections from individuals/other parties; and
- 2 objections from local aerodromes/aviation consultees.

The following sections outline the nature of the objections received from local aviation consultees who are mainly non users of the airport and NATMAC members.

4.8.1 Cairngorm Gliding Club

Cairngorm Gliding Club is located at Feshiebridge in the Spey Valley, some 3 ½ miles laterally from the proposed CTA-8. 2016 is the Club's 50th year operating out of this site, located in the Cairngorms National Park. The Club operates primarily only at weekends, with approximately 1,800 movements per year (900 take-offs and 900 landings), with an average flight duration of around 1 hour. The Club stresses that proposal to establish controlled airspace just 3 ½ miles from their airfield and 30 miles from Inverness will be detrimental to its operations. CTA-8 in particular covers an area that is frequently used by members for wave and thermal soaring.

- **Effect on local gliding operations.** The Club stated that consultation ignores the effects of Class D and E+ on gliding operations. Experience in the rest of the UK over many years has clearly demonstrated that Class D becomes an effective no-go area to gliders. ATC expect transponder equipage and that aircraft can comply with clearances, something that most gliders are not able to achieve. ATC always has the power to deny entry into Class D if it is too busy, and with no incentive for them to grant it, it is routinely denied, probably because it is just too difficult. Class E on its own is a good idea, but of course. the proposal is for Class E+ which brings in the transponder issue. Only one glider out of 13 at our site has a transponder. The cost including

installation is > £2,000, which makes no sense when fitted to an aircraft that might cost not much more than that to buy second hand.
The Club also stress that soaring in a glider carries a much higher workload than light aircraft flying. Adding use of radio with frequency changes to this workload makes something likely to "give" and that will be the flying.
Brief testing by the Club members at 5,500 ft amsl in the outer area proposed for CTA-8 gives marginal radio contact. Bearing in mind that gliders often all want fly in the same lift conditions at much the same time, a scenario whereby several gliders, perhaps 5 or 6 in close proximity all want to contact ATC at the same time is quite foreseeable.

- **Effect on cross-country gliding operations.** The Club argues that Scotland is one of the best parts of Europe for cross-country gliding, especially in mountain wave conditions. This year, the Club has had flights to the Outer Hebrides, to Skye, to the North coast around Tongue and many other far-flung destinations. With the prevailing conditions for such flights typically being with a westerly wind component, the eastern side of Scotland gives the better conditions. The Club states that Inverness' huge swathe of Class D effectively puts a block on these flights. Although the Class D has been lowered, it still makes it impossible for gliders to fly over if there is any risk of an unavoidable descent into Class D, and thus it makes crossing above the area of Class D a no-go area for gliders unless they are very high. The distance between Class D and the surface is mostly too low to allow safe cross-country glider flight underneath, bearing in mind the height of the terrain.

- **Reasonableness, proportionality and justifications.** The Club operates primarily at weekends. The Club points out that when looking at the "arrivals and departures" pages at Inverness airport for Saturdays and Sundays, it is seen that there are perhaps an average of one or two arrivals and the same number of departures per hour from/to the south, during the periods that Club members are likely to be flying. The Club argues that for the sake of these few flights, the scope of its gliding operations would be substantially curtailed.
The Club points out that the Consultation Document Executive Summary mentions that the airport handles 0.3% of UK passenger traffic. However, the size of its proposed airspace is wildly out of proportion to that, covering as it does something around 1,250 square miles laterally.
The Club concludes that the consultation should try to establish that the airspace is needed on safety grounds, is proportionate and meets the needs of all users.

4.8.2 Light Aircraft Association (LAA)

The LAA pointed out that they have submitted three responses in total, with the first two being classed as 'interim responses' pending the receipt of further information from HIAL. The LAA stress that their latest response must be read in conjunction with their first and second responses.

The LAA state that the latest ACP is flawed on a number of criteria outlined below:

- **Airspace usage.** The passenger numbers are irrelevant to the case for CAS. What is relevant is the number of CAT movements. The LAA states that for the whole of 2015, the total CAT movements was 10,581 - 36% below the peak number of movements for 2016 (16,675 CAT movements), at a time when the Airport did not even offer a radar service.

- **Airprox Reports and Mandatory Occurrence Reports (MOR).** The LAA stressed that the history of Airprox Reports and MORs relating to this ACP significantly fails to establish a strong safety case for CAS. The LAA added that at no stage have HIAL offered a safety analysis of how the proposed CAS would have beneficially affected each listed Airprox. The LAA pointed out that they have updated their survey of Airprox Reports to bring it up to June 2016, a total of 10 ½ years[7]. The LAA pointed out that during this period there were only 3 relevant Airprox Reports below 10,000 ft, all of which took place at a distance of more than 22 miles and none of which would have been averted by the proposed airspace.

- **Environmental.** In addition to the basic ACP, in this Version 3.1 HIAL seek to consult on new GNSS approach and departure procedures as defined in the CAA's CAP1378. We have no objection to such procedures, but observe on two aspects that undermine their consultation:

    - In terms of track miles and noise impact on the ground, these GNSS procedures are less beneficial than the current procedures.

    - The LAA understands that the consultations with communities that will be affected by the new noise impact have been less than thorough. The LAA said that they have spoken to Community Councils that will be affected, and they were unaware of the change.

- **Impact on GA operations.** The LAA stressed that the proposed CAS will impose a severe constraint on GA flights in poor weather conditions, particularly due to the high terrain local to the Airport (LAA referred to their first response). The LAA pointed out that, given that some of their local aircraft do not have electrical systems, let alone a transponder, the airspace would act as a barrier between the North and South of the Highlands. The LAA also expressed their alarm that HIAL clearly expressed at an IGAFG meeting that an advantage to the military of HIAL's CAS would be that if military aircraft were flying below the floor of the CAS they would not need to speak to ATC. The LAA expressed their deep concern at this since below that floor would often be where GA pilots would be flying that the lack of radio contact would mean a significantly reduced situational awareness for GA of where the fast jets are.

4.8.3 General Aviation Alliance (GAA)

The GAA welcomed the opportunity to be able to comment upon the CAS and IFPs proposals from HIAL. They would like it noted that, through attending a significant number of meetings and making a direct offer of help over the preparation of the

[7] The LAA's full analysis report of this extended period is at Annex A to the LAA response letter.

second consultation documentation, which was rejected, the whole GA community has worked to move this forward as efficiently as possible. Following all that effort the GAA finds the need to respond as it has both deeply regrettable and a sad reflection upon the way that HIAL have run the consultations.

The GAA expressed concern at the limited data provided, some of which recipients of the published consultation documentation will not have had available to them. The GAA find the proposed CAS to have been ill considered and to be excessive in both classification and quantity, and so rejects the need for CAS.

- **The Consultation Process.** The GAA stresses that it is aircraft movements that affect both people on the ground and fellow aviators; yet the consultation document does not contain pertinent figures, just statements such as, "In 2015, Inverness Airport handled over 678,000 terminal passengers …. the number of commercial air transport movements (ATM) is expected to continue to grow." The lack of historical aircraft movement data (which would show the actual decline in ATM) and predictions prevents consultees from being able to reach a meaningful opinion. To correct this breach of CAP 725 [Reference 1] the alliance state that the consultation should be rerun providing accurate and pertinent data to consultees to enable them to reach meaningful opinions.

- **The Instrument Flight Procedure Proposals.** With respect to the proposals made we understand and support the need for modern GPS based procedures, however we find those proposed to be inconsistent, contain excessive track miles, are lower than they need to be, and needlessly create new aircraft noise. They need to be re-designed and re-consulted upon.
  For fuel efficiency and to limit noise on the ground modern Passenger Air Transport Movements (PATM) aircraft need to get as high as possible as soon as possible and remain there for as long as possible; this also permits higher CAS bases, yet there are disparities between the four possible STARs:
    - Runway 05 northern BAPAN 4600 ft
    - Runway 05 southern DOPOL 4100 ft
    - Runway 23 northern AMABO 3300 ft
    - Runway 23 southern RINGU 3500 ft

  Again for fuel efficiency and to limit noise on the ground modern PATM aircraft need to get as high as possible as soon as possible and remain there for as long as possible, this also permits higher CAS bases, yet there are disparities between the two possible Standard Terminal Arrivals (STAR):

    - PE05I is 10 NM out and 2800 ft; and
    - PE23I is slightly more than 10nm out and 2500 ft.

  Thus, the proposals give unnecessary extra fuel burn and noise and need to be re-designed to give a more efficient profile.

- **Environmental Issues.** The GAA pointed out that in the HIAL "Inverness Airport ACP emissions assessment (version 2)" document that has not been made available as part of the consultation, it is stated that:

  "It can be seen that the proposed routes are all longer than the current central swathe tracks, …." And, *"It can be seen that if the central 'average' swathe track*

is assumed for each of the current routes, the airspace change is expected to cause a net increase in annual CO_2 emissions of 387 tonnes, which will increase a further 29% to 498 tonnes by 2019."

The GAA further pointed out that in a number of places, the consultation documents make false claims such as *"Environmental benefits for the Inverness Airport Airspace Change Proposal would see reductions of aircraft emissions and noise with improvements in local air quality and tranquillity."*

The GAA also refer to the HIAL "Inverness Airport ACP – supplemental emissions assessment" document that has not been made available as part of the consultation. They consider that there is an attempt to justify lower track miles by considering a holding procedure, that is used less than once per month (if that), to massage the figures into something more favourable.

The GAA concludes that the consultation should be rerun providing accurate and pertinent data to consultees to enable them to reach meaningful opinions.

In relation to the existing Instrument Landing System (ILS)/Distance Measuring Equipment (DME)/VHF Omnidirectional Beacon (VOR) for runway 23 to be replaced with a Performance Based Navigation (PBN) version of the same, then there would no change of the overland noise pattern for traffic arriving to runway 23 from the south. As per Department for Transport (DfT) recommendations, the GAA states that there is a requirement for the STAR for runway 23 to be re-designed to replicate the existing procedure.

4.8.4 British Hang Gliding and Paragliding Association (BHPA)

The BHPA fully supports the points made by the GA Alliance in its response and wishes them to be taken as coming from the BHPA.

Additionally, the BHPA notes that the second consultation document states that "A LoA is in draft between Inverness ATC and the operators at Alturlie Point site, to enhance mixed CAT and GA paraglider operations in this area."

The BHPA said that it has proved impossible to reach a LoA for the operations that are currently in Class G airspace.

Note: *The BHPA have proposed a draft LoA should Class D airspace be created over the site. The BHPA have asked for a response agreeing it or proposing amendments.*

4.8.5 Deeside Gliding Club

Inverness Airport is situated in a critical position, which can control the flight path taken by most aircraft routing to the far North of Scotland. Any aircraft forced to route around the proposed CTA would be obliged to make a major detour over hostile territory to the West or out over the Moray Firth to the East some 30 – 40 kms across water.

The Club expressed its concern that Class D CAS can only be penetrated at the discretion of Inverness ATC and historically in the current Class G regime, this has not been easily achieved.

In relation to the proposed CTA/CTR, the Club said that it covers a massive amount of airspace to accommodate the proposed climb out and landing patterns and questioned whether it is truly necessary. The Club further proposed the creation of a Radio Mandatory Zone (RMZ) to ensure that traffic flows effectively.

Deeside stressed that the Highlands of Scotland offers an extraordinary opportunity for sports flying, with many glider pilots visiting both from within the UK and from Europe. The Club said that placing a barrier to this territory would substantially limit and detract visiting glider pilots and consequently affect the local businesses. The Club added that introducing a massive CTR/CTA to support a relatively low level of traffic to Inverness seems disproportionate and to the great detriment of GA activity.

The Club further expressed their concern that evidence based risk analysis has not been demonstrated.

4.8.6 British Gliding Association (BGA)

The British Gliding Association (BGA) represents 80 gliding clubs and 7,000 UK pilots. It also works closely with other members of the GA Alliance and fully endorses the detailed response to this consultation from that body.

The BGA opposes the proposal in full, stating that it fails on safety, proportionality, meeting needs of all users and worsens the environment as well as causing a huge and unjustified obstacle for GA. The BGA provided the following feedback on the proposal:

- **Location.** Inverness Airport is situated at an aviation critical location. Flights from existing gliding sites wishing to access the unique soaring potential of terrain NW of the Great Glen must pass between the somewhat intimidating waters of the Moray Firth and the high ground and typically lower cloud base immediately W of Inverness. Local soaring flights particularly from Easterton, Feshiebridge and Aboyne also need to access the lower lying and more agricultural terrain north of the Cairngorm Mountains.

- **Culture.** While many years of experience have confirmed that individual controllers can be helpful to GA traffic, the overall culture of Inverness ATC is one of control with absolute priority given to inbound and outbound CAT rather than a stance of facilitation of all traffic.

- **Safety.** HIAL do not quote safety as the reason that they are proposing CAS. Instead, the consultation states, "The purpose of such changes is to ensure that environmental and economic benefits are achieved…" Nonetheless the ACP consultants did provide Airprox and MOR data for the period 2006 – 2012:

    - 20 Airprox were identified by Osprey.
    - 16 of these took place within 20 nm of Inverness.
    - Two of the 16 were in the Kinloss circuit.
    - The remaining 4 (of the 20) were more than 20 nm from Inverness.

  The proposal identifies 16 MORs for which no corresponding Airprox exists. None of these MORs involved light aircraft or gliders and almost all stemmed from ATC errors or confusion.
  The proposal incorrectly suggests that the 20 Airprox were with unknown airspace users. Only 2 of the 20 Airprox were with unknown aircraft.
  Thus on the matter of safety, the BGA concludes that:
    - HIAL are not using safety as a reason to propose CAS.
    - Had they chosen to do so the data does not support the creation of CAS.

- HIAL have failed to even consider the detrimental impact on safety caused by the proposed CAS and its inevitable concentration of traffic in other areas.

- **Proportionality.** A casual perusal of CAT arrivals and departures shows that on average there may be a CAT arrival or departure at intervals averaging between 20 and 40 minutes. With this amount of traffic any competent controller should be able to manage the small numbers of non-CAT traffic by co-ordination rather than control and the rights of refusal of entry conferred by Class D airspace are therefore entirely unnecessary and inappropriate.

- **Meeting the needs of all users.** It is clear from previous CAA endorsed studies that a very large proportion of GA traffic will go to great lengths to avoid CAS and the potential for being refused entry. Creating CAS also severely inhibits VFR flight under Standard European Rules of the Air (SERA) criteria. And when we add the cultural issues referred to above there is no doubt that the proposal creates an enormous barrier to GA and effectively cuts off NW Scotland. It most certainly does not "meet their needs"; quite the opposite is true.

- **Environmental.** CAS is not a prerequisite for flying efficient profiles and must not be used as a "justification" for the current proposals – there is no logical connection. It is apparent (and admitted by HIAL) that the proposed plans will in fact increase track miles and emissions. HIAL have stated "…the airspace change is expected to cause a net increase in annual CO_2 emissions of 387 tonnes, which will increase a further 29% to 498 tonnes by 2019."

5 Post Consultation Actions

HIAL will submit a formal ACP to SARG of the CAA after a further period of consultation, detailing the case for the proposed change to the current arrangements and procedures in the immediate airspace surrounding Inverness Airport. This will include adjustments required to accommodate responses to this consultation.

5.1 Post-Consultation Review

Following the second stage of consultation that ran from 15th August to 6th November 2016, all comments received have been thoroughly analysed and reviewed by HIAL (and Osprey) in order to identify and address the issues of concern. HIAL remains committed to mitigate, as far as is practicable, the principle concerns of those consultees who objected to this proposal.

The approach taken by HIAL was to review the airspace design in light of the significant points of objection raised by consultees, and to continue a dialogue with the principle objectors to assuage, as far as is practicable, their concerns.

5.2 Post-Consultation Airspace Development

Figure 4 below shows the design for the Inverness Airport CAS contained within the 5th August to 6th November 2016 consultation.

Figure 4 Geographic extent of the Inverness Control Zone (CTR) and Control Areas (CTA)
UK Civil Aviation Authority (CAA) / NATS Digital Data. VFR Chart Scotland, 500,000, June 2013

5.3 Next Stages of the ACP

The consultation process constitutes the third stage of the CAA's overall process detailed in CAP 725 [Reference 1] leading to an ACP.

HIAL will submit a formal ACP to SARG of the CAA, following a further period of consultation, reflecting the changes made to the airspace design in order to mitigate the stakeholder concerns expressed within this document. The formal ACP details the case for the proposed change in airspace once the analysis of all further responses is complete. It is a requirement of the consultation process that HIAL will provide the CAA with full details of the consultation (including copies of responses and correspondence) together with all documentation necessary for the promulgation of the proposed airspace change.

Following receipt of the formal ACP, the CAA requires a 16-week period to conduct its own internal analysis of the final proposal and consultation results, before arriving at a Regulatory Decision.

In the event that the CAA, without the need for further design optimisation or analysis, accepts the ACP, then HIAL proposes that implementation takes place on a single date. This means activation of all of the new Instrument Flight Procedures (IFP) and the new airspace simultaneously, on a double AIRAC (Aeronautical Information Regulation and Control) cycle. This approach would not create an overly large training burden for Inverness ATC and NATS Prestwick Area Control Centre (ACC) personnel or for operator Flight Management System (FMS) updates.

6 References

Reference	Name	Origin
1	CAP 725 CAA Guidance on the Application of the Airspace Change Process Third Edition (corrected) April 2007	CAA ISBN 978 0 11790 739 3
2	7550 021 HIAL Consultation Document: Proposal for the Introduction of Controlled Airspace an Optimisation of Instrument Flight Procedures at Inverness Airport 19th September 2014	HIAL
3	Code of Practice on Consultation July 2008	Cabinet Office URN 08/1097

Table 4 Table of References

A1 Consultation Background and Methodology

A1.1 Background to the Consultation

HIAL wishes to engage further with all parties potentially affected by its revised proposed Airspace Change. Constructive feedback will inform the Proposal development, ensuring the enhancement of further positive effects, and that negative impact is minimised. This also meets the CAA mandatory requirement to undertake stakeholder consultation, a continuation from that conducted in late 2014 and early 2015, as part of the submission of an ACP. This Section provides a brief overview of the consultation process for HIAL's proposal at Inverness Airport.

This consultation is about a proposal to establish CAS, Class D[8] and Class E[9]+TMZ[10], surrounding Inverness Airport. The proposed design has changed in light of stakeholder feedback from the consultation held 2014/2015. This consultation considers the new airspace design and, for true transparency provides information on new satellite-based approach procedures (which replicate the current runway final approach paths) that will be introduced coincident with the change to the airspace.

This consultation is not about:

- Inverness Airport future development or aspects of Government Aviation Policy;
- Noise Abatement Procedures for departing aircraft or Noise Preferential Routes; or
- Consultation on the Implementation of Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012, Standardised European Rules of the Air (SERA) in the United Kingdom.

This consultation is also not about the Consultation on the Implementation of Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012, SERA in the United Kingdom. The status of this consultation can be viewed at SERA Consultation. HIAL will note any comments on this issue included in consultation responses but they will not be considered further in relation to the Inverness Airport airspace change analysis.

HIAL, as the Sponsor of the proposed airspace change, is required to submit a case to the CAA to justify the change in the airspace surrounding Inverness Airport. In addition, as part of the CAA's ACP, it is HIAL's responsibility to consult with all relevant stakeholders who may be directly or indirectly, affected by the proposal.

[8] Class D airspace cannot be entered without ATC clearance and an air traffic service is mandatory. Class D is the most common airspace class established for the protection of airports in the UK, mainly consisting of CTRs and CTAs (CTR/A).
[9] Class E airspace cannot be entered by IFR traffic without ATC clearance; VFR traffic does not require a clearance; however, pilots are encouraged to contact ATC and comply with instructions.
[10] A TMZ is airspace of defined dimensions wherein aircraft wishing to enter or fly within the defined area, will be required to have and operate Secondary Surveillance Radar (SSR) equipment or receive ATC clearance to enter.

A1.2 Method of Consultation

The HIAL Airspace Change consultation was conducted in accordance with the principles set out in the Cabinet Office Code of Practice on Consultation [Reference 3], as required by the CAA.

The additional period of consultation on the revised proposal commenced on 5th August and ran until 6th November 2016 – a period of 13 weeks.

Consultees were asked to consider the revised proposal and submit a response by email to HIAL through a dedicated email address (invernessairspace@hial.co.uk). Written responses were to be sent to Inverness Airspace Change, HIAL, Inverness Airport, Inverness, Scotland, IV2 7JB. Information on the consultation was provided on the Inverness Airspace Change Consultation webpage and additional extensive publication of the Inverness airspace change was made in the local printed media.

The consultees were instructed to include 'Inverness CAS' in the email subject line of their response with suggested content as follows:

First line of text:

"I am responding on behalf of [name of organisation/local council]"; or

"I am responding as a member of the public".

Second line of text:

[Agreement to pass on personal details to the CAA, for Data Protection Act compliance]:

"I/We agree/do not agree that personal details contained within this response may be sent to the CAA as part of the Airspace Change Proposal".

Third line of text:

Your formal response, one of the following:

"I/We support the addition of Inverness Airport's Controlled Airspace";

"I/We have no objection to the addition of Inverness Airport's Controlled Airspace"; or

"I/We object to the addition of Inverness Airport's Controlled Airspace"

Subsequent text:

Please state the reasons for your response, (the reasons why you support or object to the proposal).

In order to promote maximum response, the following reminders were sent throughout the consultation period:

- Email reminder sent on 9th September 2016 to local aviation consultees, airport users, Community Councils and MPs who had not responded to date;
- Email reminder sent on 14th September 2016 to the NATMAC members who had not responded to date;
- Email reminder sent on 18th and 19th October to all consultees who had not yet responded; and
- Final reminder email sent on 2nd November to the Community Councils and MPs.

A2 Stakeholder / Consultee List

A2.1 Aviation Consultees: Airport Users

Consultee
Highland Jet Centre
Air ITM
Benair
Capital Trading Aviation
Dinair
Eastern Airways
EasyJet
Edinburgh Air Charter
Flybe
Gamma Aviation
Helvetic Airways/Falcontravel
KLM
LAA Highland & Islands Strut
London Executive Aviation (LEA)
Loganair
NOMAD Aviation
PDG Helicopters
RVL Group

A2.2 Aviation Consultees: Local Aerodrome/Aviation Consultees

Consultee
Aboyne Glider Site / Deeside Gliding Club
Alturlie Hang Glide Site
Culbokie Airstrip
Dornoch Airstrip
Easter Airstrip
Feshiebridge Glider Site / Blackmill Airstrip
Knockbain Airstrip
Moray Flying Club / No 663 Volunteer Glider Squadron (VGS)
Nairn and Gollanfield Heliports / HG Helicopters

A2.3 Aviation Consultees: National Organisations (NATMAC)

Consultee	Also known As
Airspace, ATM and Aerodromes (CAA)	AAA
Aircraft Owners and Pilots Association	AOPA UK
Airport Operators Association	AOA
Aviation Division Navy Command Headquarters	NCHQ
Aviation Environment Federation	AEF
BAE Systems Warton	BAES
British Air Transport Association	BATA
British Airline Pilots' Association	BALPA
British Airways	BA
British Balloon and Airship Club	BBAC
British Business and General Aviation Association	BBGA
British Gliding Association	BGA

Consultee	Also known As
British Hang Gliding and Paragliding Association	BHPA
British Helicopter Association	BHA
British Microlight Aircraft Association	BMAA
British Model Flying Association	BMFA
British Parachute Association	BPA
Civil Aviation Authority	CAA SARG
Defence Airspace and Air Traffic Management (incl. the Military User Advisory Consultative Team)	DAATM (MUACT)
Euro UAV Systems Centre Ltd	UAVS
General Aviation Safety Council	GASCo
Guild of Air Traffic Control Officers	GATCO
Heavy Airlines	
Helicopter Club of Great Britain	HCGB
Honourable Company of Air Pilots	
Light Aircraft Association	LAA
Light Airlines	
Low Fares Airlines	
Military Aviation Authority	MAA
National Air Traffic Services	NATS
PPL/IR Europe	PPL/IR
UK Airprox Board	UKAB
UK Flight Safety Committee	UKFSC
3 AF-UK/A3	

A2.4 Non-Aviation Consultees: National Bodies

Consultee
UK Association of National Park Authorities
Cairngorms National Park, Planning Department
National Trust for Scotland
Scottish Natural Heritage
Friends of the Earth Scotland
Association for the Protection of Rural Scotland

A2.5 Non-Aviation Consultees: Highland Unitary Community Councils

Inverness, Nairn, Badenoch and Strathspey Area Wards

Area Ward
Aird and Loch Ness
Badenoch and Strathspey
Culloden and Ardersier
Inverness Central
Inverness Millburn
Inverness Ness-Side
Inverness South
Inverness West
Nairn

Caithness, Sutherland and Easter Ross Area Wards

Area Ward
Cromarty Firth
Tain and Easter Ross

Ross, Skye and Lochaber Area Wards

Area Ward
Black Isle
Dingwall and Seaforth

A2.6 Information Organisations: Members of Parliament

UK Parliament

Consultee	Constituency
Dr P Monaghan	Caithness, Sutherland and Easter Ross
Mr D Hendry	Inverness, Nairn, Badenock and Strathspey
Mr A Robertson	Moray
Mr I Blackford	Ross, Skye and Lochaber

Scottish Parliament

Consultee	Constituency
Ms K Forbes	Skye, Lochaber and Badenoch
Mr R Lochhead	Moray
Mr F Ewing	Inverness and Nairn
Ms G Ross	Caithness, Sutherland and Ross
Ms R Grant	Highlands and Islands
Mr D Stewart	Highlands and Islands

Consultee	Constituency
Mr J Finnie	Highlands and Islands
Mr D Cameron	Highlands and Islands
Mr E Mountain	Highlands and Islands
Mr D Ross	Highlands and Islands
Ms M Todd	Highlands and Islands

A2.7 Information Organisations: Civil Aviation Authority

Consultee	Also known As
Safety and Airspace Regulation Group	SARG
Safety and Airspace Regulation Group Head of Aerodrome & Air Traffic Standards Division	SARG AAA Manager Aerodromes
Safety and Airspace Regulation Group Flight Ops Division	SARG Flight Ops Division
Safety and Airspace Regulation Head of Airspace Regulation	SARG AAA Manager Airspace Regulation

A3 The Previously Consulted Inverness Airport CAS – Proposal 2014

A3.1 Overview

This consultation is a continuation of that held in late 2014 and early 2015. The revised design takes into account comments received during that consultation. A summary of the original proposal is provided below.

A3.2 Proposed Airspace Design 2014

The airspace originally proposed is shown in Figure 5 below.

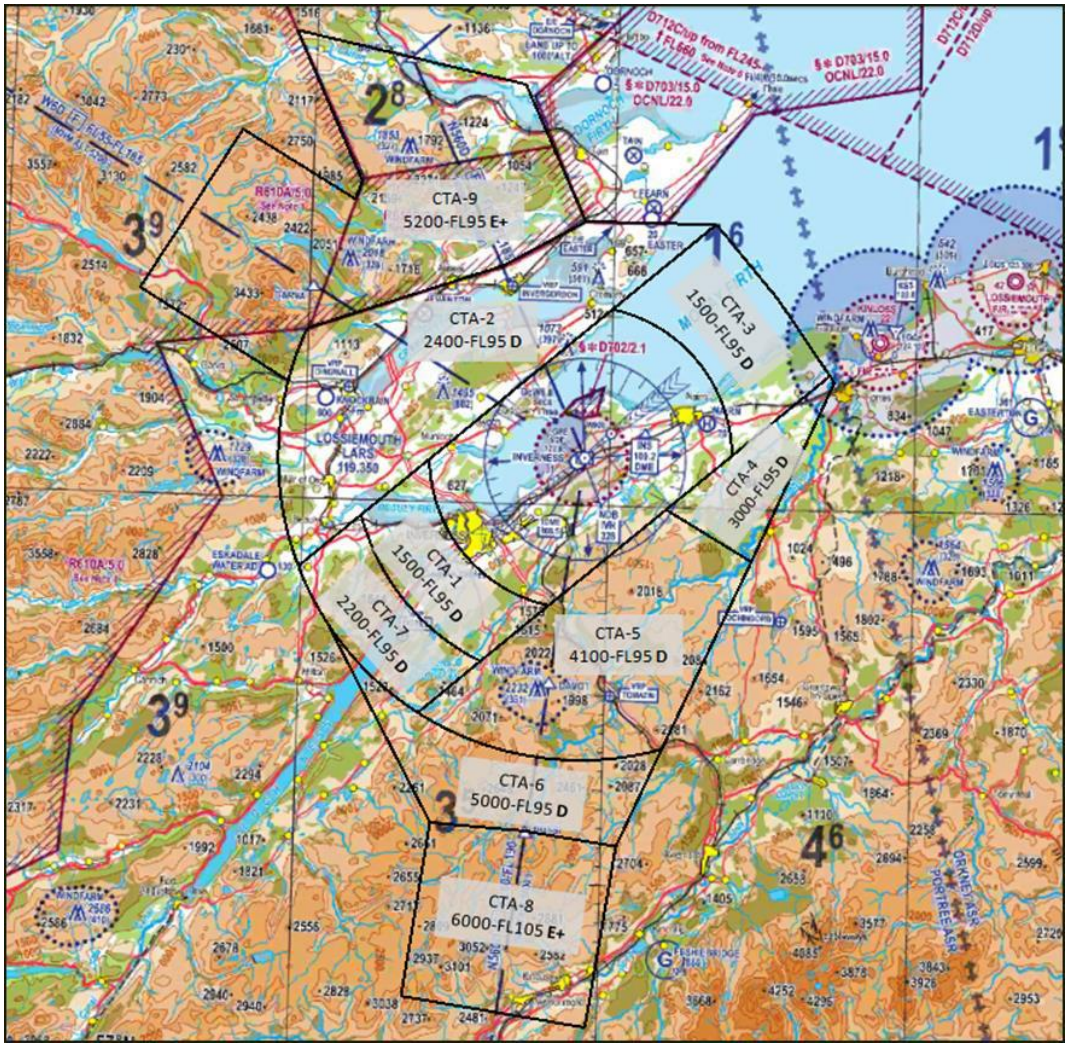

Figure 5 Proposed Inverness Class D and E+TMZ CAS – Proposal 2014
UK Civil Aviation Authority (CAA) / NATS Digital Data. VFR Chart Scotland, 500,000, June 2013

The proposed Class D CAS comprised:

- Inverness Control Zone (CTR) of radius 8 NM centred on the Aerodrome Reference Point (ARP), approximately the runway centre, and extending to 5 NM either side of the extended Rwy centrelines, surface to FL95, approximately 9,500 ft above mean sea level (amsl);
- Seven Class D Control Areas (CTAs) with a common ceiling of FL95 to the CTR;
- **CTA-1**, 1,500 ft amsl base altitude, extends from the CTR to the southwest, 12 NM from the ARP, 5 NM either side of the Rwy centreline. The base altitude provides protection for Rwy05 IAPs in the final approach;
- **CTA-2**, 2,400 ft amsl base altitude, extending beyond the CTR to the northwest, aligning with the southern boundary of Highlands Restricted Area (HRA, R610D), following this boundary northeast and thence following the southern boundary of Tain Bombing Range (D703). The base altitude is constrained by the maximum demanded climb gradient allowed by the SIDs / PDRs regulation compliant design;
- **CTA-3**, 1,500 ft amsl base altitude, extends from the CTR to the northeast, 13.5 NM from the ARP, the northern boundary 5 NM to the north, and parallel to the Rwy centreline. The base altitude provides protection for Rwy23 IAPs in the final approach, notwithstanding this, the use of certain current conventional will have to be limited;
- **CTA-4**, 3,000 ft amsl base altitude, an approximate triangle linking CTA-3 with CTA-5. The base altitude is defined by the Inverness ATC radio, radar coverage and RAF Lossiemouth traffic patterns;
- **CTA-5**, 4,100 ft amsl base altitude, extending beyond the CTR to the southeast of the Airport. The base altitude is defined by the Inverness ATC radio & radar coverage and the maximum demanded climb gradient allowed by the SIDs / PDRs regulation compliant design;
- **CTA-6**, 5,000 ft amsl base altitude, extending beyond the CTR to the south, connecting CTAs-1, 5 and 7 to the southern air traffic route section at the GUSSI Reporting Point (RP). The base altitude is defined by the Inverness ATC radio, radar coverage and the maximum demanded climb gradient allowed by the SIDs / PDRs regulation compliant design; and
- **CTA-7**, 2,200 amsl base altitude, extending southwest beyond CTA-1 and linking with CTA-6. The base altitude provides protection for Rwy05 IAPs in the final approach.
    - Two Class E+TMZ CTAs to align with the CAA intention[11] to reclassify and re-designate the air routes (Advisory Routes, ADRs) at the end of 2014;
- **CTA-8**, 6,000 ft amsl base altitude with top level of FL105. The base has been defined to align with the current base of the Class F ADR (N560D) in that area but raised by 200 ft to ensure full Inverness ATC radar coverage; and
- **CTA-9**, 5,200 ft amsl base altitude with top level of FL95 above the Highlands Restricted Area (HRA, R610D). The base has been defined to align with the current base of the Class F ADRs (N560D and W6D) in that area.
    - The CTR was designed to contain the flight path of aircraft on the Final Approach Tracks (FAT) where these are below 2,000 ft amsl and climb profiles of

[11] CAA Consultation on the replacement of Class F Airspace in UK Flight Information Regions, 8 Apr 2013.

departing aircraft until they are above 2,000ft amsl. The width of the CTR (5 NM either side of centre-line) provided adequate lateral containment and protection for aircraft below 2,000 ft amsl.

The CTAs-1, 2, 3, 4 and 7 were designed to contain the majority of flight paths and associated Primary Areas for the current Direct Arrivals IFPs (based on the INS VOR) and IAPs to Runways 05 and 23.

The design of CTAs-4, 5, 6 and 7 was intended to contain the flight paths and associated Primary Areas[12] for the proposed Preferred Departure Routes (PDR) and Preferred Arrival Routes (PAR), providing connectivity to the air routes through the Class E + TMZ CTAs-8 and 9.

[12] Primary Areas constructed in accordance with ICAO Doc 8168 Vol are associated volumes of airspace protected by CAS or from physical intrusion and obstruction (CAP725).