

<b>Title: ACP 2015-16 Introduction of GNSS procedures (RNAV) at Land's End Airport</b>	<b>Post Implementation Review Feedback</b>
<b>ACP Ref:</b> ACP-2015-16	<b>Approval Date:</b> 30/03/2016
<b>Decision Letter:</b> <a href="#">Click here</a>	<b>Implementation Date:</b>

<b>1. Relevant events since change (if any)</b>	
Please confirm whether, since implementation, there has been a significant increase or decrease in aircraft movements and/or a change in the type of aircraft using these routes, or some other relevant event, this should be set out here as background context.	<b>Yes</b>
<p><b>Prior to the change no IAP's existed – therefore, any aircraft movement using this change is deemed an increase. Since the implementation of RNAV (GNSS) approaches to the four main runway ends at Land's End, they have been utilised as follows:</b></p> <p><b>2018 = 18 RNAV Approaches flown</b>  <b>2019 = 201 RNAV Approaches flown</b>  <b>2020 = 89 RNAV Approaches flown (to 30/4/20)</b></p> <p><b>Overall aircraft movements handled by Land's End ATC have not significantly changed:</b>  <b>2018: 15,795</b>  <b>2019: 15,042</b>  <b>2020 (Jan-Apr inclusive of COVID-19 factor): 2,005</b></p> <p><b>The Approaches are only available to a select few operators.</b>  <b>Key Dates to the project include:</b></p> <p><b>December 2011: Applied for ACCEPTA European Funding for four LNAV and four LPV approaches</b>  <b>March 2012: Funding application successful - £27k secured towards project</b>  <b>June 2012: EGNOS on hold – await CAA guidance</b>  <b>May 2014: CAA CAP1122 issued that provides CAA guidance on EGNOS implementation</b>  <b>Dec 2014: Attended mandatory EGNOS seminar in Madrid. Engaged consultants NU-Approach</b>  <b>Jan 2015: Commissioned Davidsons Ltd (based in France) to design our approaches to ICAO standards</b>  <b>June 2015: EGNOS Safety Case and Hazard Identification submitted v.1</b>  <b>July 2015: Attended CAA House, London for initial Framework meeting for comment on our proposals</b>  <b>Aug 2015: Start of the CAA mandatory Airspace Change Process (ACP) Consultation</b>  <b>Sept 2015: EGNOS Public Consultation Evening at the Airport</b>  <b>Sept 2015: Flight Validations of LNAV approaches</b>  <b>Oct 2015: Agreement reached with Arquia to light nearby high mast to support IFR operations</b>  <b>Oct 2015: Commence airspace / ATC discussions with local ATC units (ISC, NQY, Culdrose)</b>  <b>Oct 2015: End of EGNOS ACP Consultation Process</b>  <b>Nov 2015: Aviation Charts updated with IAP 'feathers' and SSR radar code (4501) secured</b>  <b>Jan 2016: CAA mandate all four ATCO's attend college for training on IFR a/c (ADI rating at Global ATS)</b>  <b>Feb 2016: Manuals Updated and ATC Training Plan finalised v.1</b>  <b>Mar 2016: EGNOS Pilots Brief drafted, approved by CAA and published on our website</b>  <b>Mar 2016: Runway 07 RNAV 'Live' &amp; Article 172 exemption – first in UK under the CAP1122 process</b>  <b>July 2016: Major Earthworks &amp; Land Purchase to achieve the required 75m runway strip clearances</b></p>	

Sept 2016: Traffic Study carried at RNAS Culdrose (radar) with CAA ATS Inspector present  
 Sept 2016: Runway 16 and 34 LNAV in UK AIP (delay due Airspace Consultation Process)  
 Nov 2016: Runway 25 LNAV in UK AIP (delay due 'steep' 4.5 degree approach)  
 Dec 2016: Coded Database commissioned and delivered by Garmin, Switzerland  
 Jan 2017: Flight Validations of LPV approaches  
 Mar 2017: CAA accept final Safety Case v.3 for all runways & ATC Training Plan  
 June 2017: Start of a series of meetings with St Mary's ATC to finalise ATC procedures & local separations  
 Feb 2018: Operational Trail #1 for 2 months – VFR only approaches 16, 25 & 34 to validate ATC procedures  
 Oct 2018: Skybus pilots commence GNSS training at Land's End  
 Nov 2018: Operational Trial #2 for 3 months – VFR only approaches to runways 16, 25 and  
 Jul 2019: Runways 16, 34 and 25 RNAV 'Live' (first 'steep' approach in UK) & Article 183 exemption.

**EGNOS project complete (7 yrs 7mths from funding application and 4yrs from initial Framework meeting with the CAA).**

**1. Data to be collected from Change Sponsor for the purpose of the PIR**

Please confirm the implementation date(s) of the airspace change proposal.	<b>19/07/2019</b>
<p>Please confirm whether implementation occurred on the date(s) identified in the Decision Letter.</p> <p><i>If the answer is 'no' please explain if the actual implementation date(s) was not as identified in the Decision Letter.</i></p> <p><b>Rwy 07 was implemented: 04/03/2016</b>  <b>Rwy 16, 25 and 34 were implemented: 19/07/2019</b>  <b>Decision Letter Estimate: 18/08/2016</b></p> <p><b>Reasons for difference (delay) in dates:</b></p> <ul style="list-style-type: none"> <li>• <b>ACP Process delayed.</b></li> <li>• <b>Steep 4.5 degree approach to Rwy 25.</b></li> <li>• <b>Safety Case delayed.</b></li> <li>• <b>Delay in agreeing final ATC procedures with adjacent ATCU and the subsequent need for Operational Trials to validate the new procedures.</b></li> </ul>	<b>No</b>

If there was a significant delay between the planned and actual implementation date(s), please provide a detailed explanation.

**There were a number of reasons for the delay – in particular, as one of the pioneering Airport's for the new EGNOS GNSS approaches without the traditional infrastructure/services associated with an IAP, we had to work closely with the CAA to find a way forward – often breaking new ground.**

**In addition, there were complications with agreeing safe procedures with St. Mary's ATC. While satisfactory procedures were already in place with the 'live' rwy 07 approach, issues materialised such as no proven separation between St. Mary's NDB approaches and the Land's End RPN GNSS approaches (this was addressed by placing a restriction of only one aircraft at any time on either set of approaches), ATCO training issues (further training between the ATCU's was agreed), concern over GA using the approaches (eventually restricted to CAT transport, priority A & B flights and Land's End based operators only), concern with the number of aircraft involved with only a procedural approach service / ADI**

**service (this was resolved eventually by restricting aircraft to 15min intervals and reiterating that only one IFR aircraft was permitted on Land's End frequency at a time).**

Other than normal promulgation activity (e.g. NOTAM, AIC etc.) request please identify what steps were undertaken to notify stakeholders that the airspace change was about to be implemented.

**All stakeholders (identified during the ACP process) were sent a series of email reminders. This was followed by telephone confirmation to directly affected operational stakeholders just before implementation.**

Please report whether there have been any unforeseen or unintended operational impacts of the proposal.

**No reported instances of unforeseen/unintentional operational impacts.**

## 2. Objective(s)

The objective of the proposal to introduce GNSS (RNAV) Instrument Approach Procedures (IAPs) to all runways at Land's End was to improve the year-round operational resilience of its services. Please confirm if this objective was met.

*If no, please provide additional comments...*

**While the approaches have been introduced successfully, which was a major achievement, they are of limited operational use due to their artificially high MDH restrictions. All approaches are currently restricted to 500ft due to the CAP 1122 process. Aircraft can make a visual (VMC) approach at 500ft negating the benefits of an instrument approach. The IAP designers and surveyed obstacle clearance limitations both confirm that the MDH for the approaches could be reduced (for one approach, to the system minima of 250ft). The Airport intends to submit a safety case addendum in the near future arguing that these lower MDH's can be safely implemented and thus give the desired operational resilience.**

**No**

## 3. Operational Assessment

### Safety

Please provide comparison data concerning AIRPROX/MOR for:

- 12 months before the date(s) of implementation. **NIL.**
- 12 months after date(s) of implementation. **NIL.**

### Operational Feedback

Please report whether there have been any unforeseen or unintended operational impacts of the proposal.

*If yes, please provide additional comments...*

**No**

### Air Navigation Service provision

Please confirm whether additional resources were recruited to support the revised operation

**No**

Please summarise the training provided to support the revised operation.

<p>All Land's End ATCO's were required to attend an external ATC college to upgrade their ATC licences from ADV to ADI. In addition, all ATCO's had to undertake Unit conversion training and refresher training. Adjacent ATCU's ensured their ATCO's were familiar with the new Approaches.</p> <p>All pilots had to undertake training on the GNSS approaches (ie Skybus 27 pilots).</p> <p>General Airport staff awareness of the approaches (Supplementary Instructions to Aerodrome Manual, etc.) which included delay's required between departures / arrivals (ATC requirement), weather limitations, etc.</p>	
<p><b>Utilisation and Track Keeping</b></p>	
<p>Please provide data to confirm whether utilisation data was as expected. If available, please also provide comparative analysis of track keeping for:</p> <ul style="list-style-type: none"> <li>12 months before the date of implementation. <b>No data as no IAP's were available.</b></li> <li>12 months after date of implementation. <b>In 2019 (Jan-Dec), 201 GNSS Approaches were flown.</b></li> </ul>	
<p><b>Traffic</b></p>	
<p>Please provide analysis of traffic levels for:</p> <ul style="list-style-type: none"> <li>12 months before the date(s) of implementation. <b>No data as no IAP's were available.</b></li> <li>12 months after date(s) of implementation. <b>Please see attachments.</b></li> </ul> <p>Please provide this information in tabular form illustrating movements for all runways.</p>	
<p><b>Letters of Agreement</b></p>	
<p>If applicable, please confirm whether any new or revisions to Letters of Agreement were required prior to implementation and whether any revisions were required during the period 12 months after date of implementation. <b>No material revisions (further clarity to established procedures).</b></p>	<p><b>Yes</b></p>
<p><b>4. Environmental Assessment</b></p>	
<p>Please provide analysis of the environmental impacts of the Airspace Change. The analysis should provide consider impacts in relation to noise, CO2 emissions and local air quality and should identify whether the impacts were as anticipated in the proposal and/or CAA Decision.</p> <p><b>The environmental impacts were as described in the ACP and CAA Decision. Fewer noise complaints received when aircraft are conducting the GNSS approaches – maybe due to the stable approach and defined glide slope?.</b></p>	
<p><b>5. Ministry of Defence Operations</b></p>	
<p>Please provide analysis of Ministry of Defence feedback received during the period 12 months after date of implementation.</p> <p><b>None.</b></p>	
<p><b>6. Any Other Impacts</b></p>	
<p>Did any other issues of significance occur during the period 12 months after date of implementation?</p>	<p><b>Yes</b></p>

*If yes, please provide additional comments...*

**Two minor incidents were recorded via our SMS (non MOR/Airprox). Both related to ATCO's at different adjacent ATC Unit's not following the agreed procedures. Unit Manager's were advised and the ATCO's were given further refresher training. CAA ATS Inspector (██████████) aware.**

Name of individual	██████████
Position	Airport Manager / Senior Air Traffic Control Officer
Date	<b>11/05/2020</b>

**For CAA use only.**

Has the Sponsor indicated that the original proposal met the objectives as described in the CAA's decision to approve the change?	Choose an item.
Has the Sponsor indicated that the original proposal met any conditions as described in the CAA's decision to approve the change?	Choose an item.
Has the Sponsor highlighted any observations from community stakeholders, aviation stakeholders or the Ministry of Defence?	Choose an item.

**Sign Off**

Does the CAA recommend that a post implementation review is conducted?	Choose an item.
Signed: Name: Manager Airspace Regulation/Principal Airspace Regulator (delete as applicable)	
Date: <a href="#">Click here to enter a date.</a>	