

CAA Operational Assessment

<b>Title of airspace change proposal</b>	St Athan ILS
<b>Change sponsor</b>	Welsh Government
<b>Project no.</b>	ACP-2018-035
<b>SARG project leader</b>	██████████
<i>Case study commencement date</i>	25 Nov 19
<i>Case study report as at</i>	10 Jul 20
<p><i>Instructions</i></p> <p>In providing a response for each question, please ensure that the 'status' column is completed using the following options:</p> <ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> <li>• partially</li> <li>• n/a</li> </ul> <p>To aid the SARG project leader's efficient project management it may be useful that each question is also highlighted accordingly to illustrate what is:</p> <p>resolved <span style="background-color: #2e7d32; color: white; padding: 2px;">Green</span> not resolved <span style="background-color: #ffc107; padding: 2px;">Amber</span> not compliant <span style="background-color: #dc3545; color: white; padding: 2px;">Red</span></p>	
<b>Executive Summary</b>	
<p>Since 01 April 2019 the Welsh Government and Cardiff Airport have operated St Athan airfield under a joint venture with a CAA Ordinary Aerodrome Licence regulated by the Civil Aviation Authority (CAA). Prior to this date the airfield was regulated by the Military Aviation Authority (MAA) and the airfield's ILS procedures were published in the Military Aeronautical Information Publication (Mil AIP). To facilitate these being published in the civilian UK AIP and transitioning to CAA oversight the Welsh Government submitted an Airspace Change Proposal (ACP).</p> <p>The ACP seeks CAA approval solely to publish the ILS procedure in the UK AIP, and is not for a new procedure which has been used under MAA oversight since installation in 2003. The sponsor has stated that the proposal will not result in any change to aircraft types or their frequency. When it is available the ILS procedures are used nigh on exclusively by nearly all of the commercial aircraft arriving to use the Maintenance, Repair and Overhaul (MRO) facilities at St Athan, which at the time of submission was approximately 100 aircraft per year, and aircraft tracks over the ground will be the same as previously. With no anticipated change to the nature, traffic mix or orientation of traffic</p>	

accessing the airfield, no change is expected to tranquillity, or to noise, fuel burn or emissions. Local air quality is not anticipated to be affected by the proposal. The sponsor has stated that the primary users of the ILS are aircraft arriving to use the Maintenance Repair and Overhaul (MRO) facilities located at St Athan. This comprises around 1% of annual movements but has a disproportionately high economic impact. The qualitative evidence provided is sufficient and in line with CAP 1616 Level 2C airspace changes as detailed in the Final Options Appraisal produced as part of the ACP assessment.

An Engagement and Consultation Assessment has been performed. This demonstrates the correct process and level of engagement was conducted during the ACP process. The requirement for a 4-week targeted consultation period was well documented, proportionate and fully justified. The consultation satisfied the fundamental principles of effective consultation before, during and after the consultation, demonstrated the Government's consultation principles, and was conducted in accordance with the requirements of CAP 1616. Post consultation feedback analysis was performed, and no update to the proposal was required.

To achieve civil ILS accreditation and transition to CAA oversight the ILS design required minor modification to the Missed Approach Procedure (MAP) and a Radio Communications Failure (RCF) procedure to be added. The MAP now stipulates an aircraft climbs to 4,000 feet rather than the previously published 3,000 feet, prior to following ATC instructions. The RCF procedure mirrors the MAP then a left hand turn to enter the Cardiff Hold. Not only is the RCF an emergency procedure which will rarely be flown, it formalises what would most likely have been the ATC instructions previously given. In addition, all of these track miles are flown over the sea, the left hand turn now assuring this, and is performed in either Class G airspace or Cardiff Airport's (the air traffic service providers) Class D Controlled Zone. These procedures enhance safety associated with the proposal, have been designed by a CAA Approved Procedure Designer, and have an associated safety case which has been approved by the CAA ATM Inspector. It is the opinion of the Case Officer that these safety amendments do not amend tracks over the ground in such a manner that the ACP requires assessing as a new ILS design, nor are traffic patterns altered from what would reasonably have been observed previously, and any alteration of traffic patterns would be over the sea and indiscernible.

A CAA Instrument Flight Procedure Regulator has assessed the design as acceptable and is content that all associated requirements are now in place pending the flight validation (scheduled for August 2020) which is required to be performed and assured by the CAA prior to the ILS being reintroduced. In addition, if approved, prior to the Unit using the ILS equipment for the first-time certain conditions must be met, but this would not restrict its publication in the UK Civil AIP. Prior to use the Unit must ensure its MATS Part II is updated, provide the CAA with confirmation that those valid controllers have reviewed the MATS Part II, and that the proposal provides specific training for those trainee/student ATCOs who have trained while the equipment was out of service. In addition, the safety requirements highlighted for the MAP and RCF must be reviewed and complied with.

It is the recommendation of the Case Officer that the St Athan ILS ACP is approved for publication in the UK AIP subject to the conditions detailed in this report.

1.	Justification for change and options analysis (operational/technical)	Status
1.1	Is the explanation of the proposed change clear and understood?	Yes
	The explanation is clear and accords with the Statement of Need and the Consultation material.	
1.2	Are the reasons for the change stated and acceptable?	Yes
	The ACP states the reason for the change is to transfer the St Athan ILS procedures which were previously published in the UK Military AIP into the UK Civil AIP. The change is required owing to change of ownership from the military to the Welsh Government which requires a transition from Military Aviation Authority oversight to Civil Aviation Authority oversight.	
1.3	Have all appropriate alternative options been considered, including the 'do nothing' option?	Yes
	<p>The options appraisal considered the 'do nothing' option and 4 alternatives to address the removal of the St Athan ILS procedures from the Military AIP. These were:</p> <ul style="list-style-type: none"> <li>• Permanently withdraw the ILS (Do Nothing).</li> <li>• Introduce RNAV procedures instead of ILS.</li> <li>• Publish the ILS procedures in the UK AIP as a Level 0 change.</li> <li>• Publish the ILS procedures in the UK AIP following a full Level 1 CAP 1616 process.</li> <li>• Publish the ILS procedures in the UKA IP followed a scaled, proportionate and accelerated application of CAP 1616.</li> </ul>	
1.4	Is the justification for the selection of the proposed option sound and acceptable?	Yes
	During Stage 2A an Options Development was conducted. Whilst 5 options are proposed to ensure all possibilities are considered, with no proposed change to the ILS procedure, airspace design or associated operational procedures, the scope for options development is limited to either publish the ILS procedures in the UK Civil AIP or do not. The sponsors selected option is sound and acceptable.	

2.	Airspace description and operational arrangements	Status
2.1	Is the type of proposed airspace design clearly stated and understood?	Yes
	The proposal to publish the St Athan ILS procedures in the UK Civil AIP is clearly stated and understood. There is no proposed change to airspace design.	
2.2	Are the hours of operation of the airspace and any seasonal variations stated and acceptable?	N/A
	There is no proposed change to hours of operation.	
2.3	Is any interaction with adjacent domestic and international airspace structures stated and acceptable including an explanation of how connectivity is to be achieved? Has the agreement of adjacent States been secured in respect of High Seas airspace changes?	Yes
	The ACP has been developed in close conjunction with NATS at Cardiff International Airport. There is no interaction with international airspace structures or adjacent States, and there is no requirement for a High Seas Letter.	
2.4	Is the supporting statistical evidence relevant and acceptable?	Yes
	The ACP provides relevant and acceptable qualitative statistical evidence.	
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?	Yes
	NATS Cardiff under contract with Cardiff International Airport control the aircraft inbound to St Athan. NATS Cardiff support the proposal stating that an ILS approach <i>will provide greater surety of traffic position compared to a visual approach along with an enhanced capability to complete a successful approach in weather minima lower than the procedures utilised today.</i>	

2.6	Are any draft Letters of Agreement and/or Memoranda of Understanding included and, if so, do they contain the commitments to resolve ATS procedures (ATSD) and airspace management requirements?	N/A
	There are no LoAs or MoUs required with the proposal.	
2.7	Should there be any other aviation activity (low flying, gliding, parachuting, microlight site etc) in the vicinity of the new airspace structure and no suitable operating agreements or ATC Procedures can be devised, what action has the change sponsor carried out to resolve any conflicting interests?	N/A
	There is no change to the current airspace structure.	
2.8	Is the evidence that the airspace design is compliant with ICAO SARPs, airspace design & FUA regulations, and Eurocontrol guidance satisfactory?	N/A
	There is no airspace design associated with this ACP.	
2.9	Is the proposed airspace classification stated and justification for that classification acceptable?	N/A
	There is no proposed change to airspace classification. The existing classification is acceptable.	
2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?	N/A
	There is no proposed change to airspace classification or access for users.	

2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation.)	Yes
	The proposal is looking to publish the procedures in the UK Civil AIP. There is no proposed change to airspace classification.	
2.12	Is there a commitment to allow access to all airspace users seeking a transit through controlled airspace as per the classification, or in the event of such a request being denied, a service around the affected area?	N/A
	There is no new proposed airspace structure.	
2.13	Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?	N/A
	There is no proposed change to arrangements for transiting aircraft, and those in Cardiff International Airports Class D airspace are appropriate.	
2.14	Are any airspace user group's requirements not met?	No
	No user groups are prejudiced from the proposal, and their requirements are not impacted.	
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).	N/A
	There is no delegation of ATS in the proposal.	

2.16	Is the airspace design of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to contain horizontal and vertical flight activity (including holding patterns) and associated protected areas in both radar and non-radar environments?	N/A
	There is no airspace associated with the proposal, and therefore no airspace design to consider for containment.	
2.17	Have all safety buffer requirements (or mitigation of these) been identified and described satisfactorily (to be in accordance with the agreed parameters or show acceptable mitigation)? (Refer to buffer policy letter.)	N/A
	There are no requirements for buffers in the proposal.	
2.18	Do ATC procedures ensure the maintenance of prescribed separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures?	Yes
	To conform with CAA civil oversight requirements the proposal required a suitable Missed Approach Procedure (MAP) and a Radio Communications Failure (RCF) procedure to be created. These have a suitable safety case which has been approved by the CAA ATM Inspector. The procedures ensure that traffic either performing a MAP or RCF at St Athan can safely integrate into Cardiff Airspace and the Cardiff hold.	
2.19	Is the airspace structure designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace?	Yes
	The MAP and RCF are designed to ensure appropriate terrain clearance.	
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?	N/A

	There is no new airspace structure with the proposal.	
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?	N/A
	N/A	
<b>3.</b>	<b>Supporting resources and communications, navigation and surveillance infrastructure</b>	<b>Status (CNS)</b>
3.1	Is the evidence of supporting CNS infrastructure together with availability and contingency procedures complete and acceptable? The following are to be satisfied:	
	<ul style="list-style-type: none"> <li>• <b>Communication:</b> Is the evidence of communications infrastructure including RT coverage together with availability and contingency procedures complete and acceptable? Has this frequency been agreed with AAA Infrastructure?</li> </ul>	Yes
	Whilst there are no new frequencies or communications infrastructure associated with the proposal ,as the existing communications at Cardiff International Airport which are appropriate and have been utilised for these procedures in the past will be used, contingency procedures have been created and are acceptable in the form of a RCF procedure.	
	<ul style="list-style-type: none"> <li>• <b>Navigation:</b> Is there sufficient accurate navigational guidance based on in-line VOR or NDB or by approved RNAV-derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/ Eurocontrol standards? For example, for navaids, has coverage assessment been made, such as a DEMETER report, and if so, is it satisfactory?</li> </ul>	Yes
	Whilst there are no new navigational aids with the proposal, the St Athan ILS RCF MAP is dependent upon the Cardiff NDB. The safety case identified this and a procedure will be put in place where Cardiff inform St Athan of an NDB failure, including NOTAM issue and on ATIS. An aircraft may not fly an ILS at St Athan in the case where the Cardiff NDB has failed.	



	<ul style="list-style-type: none"> <li>• <b>Surveillance:</b> Radar provision – have radar diagrams been provided, and do they show that the ATS route/airspace structure can be supported?</li> </ul>	N/A
	The proposal is to publish the procedures in the UK Civil AIP, radar coverage is not applicable. When previously utilised the ILS procedures had suitable radar coverage from Cardiff International Airport who control aircraft performing an ILS to St Athan.	
3.2	Where appropriate, are there any indications of the resources to be applied, or a commitment to provide them, in line with current forecast traffic growth acceptable?	N/A
	The proposal is to publish the procedures in the UK Civil AIP, resource is not applicable. The sponsor has stated in the proposal that reinstating the ILS procedures will not increase traffic and levels will be maintained to those when the ILS procedures were last in use.	
<b>4.</b>	<b>Maps/charts/diagrams</b>	<b>Status</b>
4.1	<p>Is a diagram of the proposed airspace included in the proposal, clearly showing the dimensions and WGS84 co-ordinates?</p> <p>(We would expect sponsors to include clear maps and diagrams of the proposed airspace structure(s) – they do not have to accord with aeronautical cartographical standards (see airspace change guidance), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals.)</p>	Yes
	The sponsor has provided the appropriate charts for the ILS procedures.	
4.2	Do the charts clearly indicate the proposed airspace change?	Yes
	The charts clearly indicated the St Athan ILS procedures which the proposal seeks to publish in the UK Civil AIP.	
4.3	Has the change sponsor identified AIP pages affected by the change proposal and provided a draft amendment?	Yes

	The sponsor has provided draft AIP instrument approach procedures which if approved will be sent to AIS for publication in the AIP.	
4.4	Has the change sponsor completed the WGS84 spreadsheet and submitted to the CAA for approval?	N/A
	There is no WGS84 data associated with the proposal.	
<b>5.</b>	<b>Operational impact</b>	<b>Status</b>
5.1	Is the change sponsor's analysis of the impact of the change on all airspace users, airfields and traffic levels, and evidence of mitigation of the effects of the change on any of these, complete and satisfactory?  Consideration should be given to:	
	a) Impact on IFR General Aviation traffic, on Operational air traffic or on VFR General Aviation traffic flow in or through the area.	N/A
	The proposal is to publish the ILS procedures which will have no impact on other airspace users. However, if approved and reintroduced, the St Athan ILS procedures will have no impact on other traffic in the area greater than that already encountered now when aircraft are vectored for a visual approach at St Athan.	
	b) Impact on VFR Routes.	N/A
	The proposal does not impact VFR routes.	
	c) Consequential effects on procedures and capacity, i.e. on SIDs, STARs, holds. Details of existing or planned routes and holds.	Yes
	The only potential consequential effect would be on the Cardiff hold if an aircraft performing an ILS to St Athan performed a RCF procedure. The impact and mitigation of this is satisfactory.	

	d) Impact on airfields and other specific activities within or adjacent to the proposed airspace.	Yes
	Cardiff International Airport would become the recipient of an aircraft with a RCF after the aircraft has performed 2 holds. This is accepted by the airport, suitable and appropriate.	
	e) Any flight planning restrictions and/ or route requirements.	N/A
	There are no flight planning restrictions or route requirements in the proposal.	
5.2	Does the change sponsor consultation material reflect the likely operational impact of the change?	Yes
	The sponsors consultation material highlighted the proposal to publish the St Athan ILS procedures in the UK Civil AIP, and in doing so reintroduce the procedures which were suspended on 01 Apr 2019 when the aerodrome transferred from military to civil oversight.	
<b>Case study conclusions – to be completed by SARG project leader</b>		<b>Yes/No</b>
	Has the change sponsor met the SARG airspace change proposal requirements and airspace regulatory requirements above?	Yes
	<p>The sponsor has complied with the CAP 1616 process in line with a Level 2C change, submitted appropriate documentation and has passed through the required gateways.</p> <p>An Engagement and Consultation Assessment has been performed. This demonstrates the correct process and level of engagement was conducted during the ACP process. The requirement for a 4-week targeted consultation period was well documented, proportionate and fully justified. The consultation satisfied the fundamental principles of effective consultation before, during and after the consultation, demonstrated the Governments consultation principles, and conducted in accordance with the requirements of CAP 1616. Post consultation feedback analysis was performed, and no update to the proposal was required.</p> <p>A Final Options Appraisal Assessment was conducted. This concluded that there is no anticipated change to the nature, traffic mix or orientation of traffic accessing the airfield. Therefore, no change is expected to tranquillity, or to noise, fuel burn or emissions. Local air</p>	

quality is not anticipated to be affected by the proposal. It is stated that the primary users of the ILS are aircraft arriving to use the Maintenance Repair and Overhaul (MRO) facilities located at St Athan. This comprises around 1% of annual movements but has a disproportionately high economic impact. The qualitative evidence provided is sufficient and in line with CAP 1616 Level 2C airspace changes.

### RECOMMENDATIONS/CONDITIONS/PIR DATA REQUIREMENTS

Are there any Recommendations which the change sponsor should try to address either before or after implementation (if approved)? If yes, please list them below.

No

***GUIDANCE NOTE:*** Recommendations are something that the change sponsor ***should try*** to address either before or after implementation, if indeed the airspace change proposal is approved. They may relate to an area in which the change sponsor is reliant upon a third party to actually come to an agreement and consequently they do not carry the same 'weight' as a Condition.

Are there any Condition(s) which the change sponsor **must fulfil** either before or after implementation (if approved)? If yes, please list them below.

Yes

The sponsor must confirm to the CAA ATM Inspector prior to the equipment being used for the first time that the following actions have taken place:

1. Evidence that the Units, St Athan and Cardiff, MATS Part II has been updated and accurately reflects the equipment usage including the requirements in the safety assessment.
2. Confirmation of the controllers which have used the system before it was taken out of service, and that they have reviewed the MATS Part II in case of any changes.
3. Confirm that the Radio Communications Failure Missed Approach Procedure safety case has been reviewed and that all safety requirements are complied with.
4. Provide assurance that the Unit has a specific training plan in place for its trainees. Assurance is required that trainees, students and ATCOs who were trained while the equipment was out of service, have trained on the procedures and associated phraseology prior to them using the equipment.
5. Provide the CAA ATS (Engineering) Inspector with the ILS Flight Calibration and Flight Validation reports scheduled for August 2020.
6. The Cardiff Airport and St Athan Airport ATSMACs must be updated and submitted together so when published the information correlates and is up to date.

**GUIDANCE NOTE:** Conditions are something that the change sponsor must fulfil either before or after implementation, if indeed the airspace change proposal is approved. If their proposal is approved, change sponsors must observe any condition(s) contained within the regulatory decision; failure to do so will usually result in the approval being revoked. Conditions should specify the consequence of failing to meet that condition, whether that be revoking the ACP or some alternative.

Are there any specific requirements in terms of the data to be collected by the change sponsor for the Post Implementation Review (if approved)? If yes, please list them below.

Yes

The sponsor should record any occasions an aircraft performing an ILS to St Athan performed either a MAP or RCF and detail any subsequent impact on other airspace users and/or Cardiff International Airport's traffic.

**GUIDANCE NOTE:** PIR data requirements concerns any specific data which the change sponsor must collate post-implementation, if indeed the airspace change proposal is approved. Please use this section to list any such requirements so that they can be captured in the regulatory decision accordingly.

### General summary

Following a change in ownership to the Welsh Government, St Athan Airport applied for and has been issued a CAA Aerodrome Ordinary Licence and has transitioned from military to civil oversight. Previously published in the UK Military AIP, the proposal looks to publish the St Athan ILS procedures in the UK Civil AIP. The ILS procedures were withdrawn when the airport transitioned on 01 Apr 2019, however publication in the UK Civil AIP would allow them to be reintroduced. To achieve civil ILS status the Missed Approach Procedure and Radio Communications Failure procedure have been amended by a suitable safety case and approved by the CAA ATM and IFP Regulators accordingly.

The sponsor has correctly followed the CAP 1616 process and passed each of the required gateways, conforming to consultation and engagement, economic and environmental requirements for a Level 2C ACP.

## Comments and observations

The aim of the ACP is to publish the St Athan ILS procedures in the UK Civil AIP, with a view to consequently allowing the procedures to be used by aircraft making an approach to St Athan.

To achieve civil ILS accreditation and transition to CAA oversight the ILS design required minor modification to the Missed Approach Procedure (MAP) and a Radio Communications Failure (RCF) procedure to be added. The MAP now stipulates an aircraft climbs to 4,000 feet rather than the previously published 3,000 feet, prior to following ATC instructions. The RCF procedure mirrors the MAP then a left hand turn to enter the Cardiff Hold. Not only is the RCF an emergency procedure which will rarely be flown, it formalises what would most likely have been the ATC instructions previously given. In addition, all of these track miles are flown over the sea, the left hand turn now assuring this, and is performed in either Class G airspace or Cardiff Airport's (the air traffic service providers) Class D Controlled Zone. These procedures enhance safety associated with the proposal, have been designed by a CAA Approved Procedure Designer, and have an associated safety case which has been approved by the CAA ATM Inspector. It is the opinion of the Case Officer that these safety amendments do not amend tracks over the ground in such a manner that the ACP requires assessing as a new ILS design, nor are traffic patterns altered from what would reasonably have been observed previously, and any alteration of traffic patterns would be over the sea and indiscernible.

A CAA Instrument Flight Procedure Regulator has assessed the design as acceptable and is content that all associated requirements are now in place pending the flight validation (scheduled for August 2020) which is required to be performed and assured by the CAA prior to the ILS being reintroduced. In addition, if approved, prior to the Unit using the ILS equipment for the first-time certain conditions must be met, but this would not restrict its publication in the UK Civil AIP. Prior to use the Unit must ensure its MATS Part II is updated, provide the CAA with confirmation that those valid controllers have reviewed the MATS Part II, and that the proposal provides specific training for those trainee/student ATCOs who have trained while the equipment was out of service. In addition, the safety requirements highlighted for the MAP and RCF must be reviewed and complied with.

The sponsor states there is no plan or desire to increase traffic to St Athan Airport from reintroducing the ILS procedures, but submits a strong economic argument that traffic/business will be lost by their prolonged or permanent withdrawal. The disproportionate relationship between the volume of traffic utilising the ILS (MRO aircraft comprising approximately 1% of St Athan annual movements) against the economic impact on the local economy is significant. This economic argument was made prior to COVID-19 which has only served to strengthen it.

It is the recommendation of the Case Officer that the St Athan ILS ACP is approved for publication in the UK AIP, subject to the conditions detailed in this report, for implementation at the next available AIRAC.

Operational assessment sign-off/ approvals	Name	Signature	Date
Operational assessment completed by: (AR Case Officer)	[REDACTED]	[REDACTED]	08 Jul 2020
Operational assessment approved by: (Manager Airspace Regulator)	[REDACTED]	[REDACTED]	10/07/2020
<p>Manager Airspace Regulation comments: Subject to the conditions laid out as above being met prior to the introduction of the St Athan ILS procedure being implemented, I am satisfied that the airspace change process has been followed and to approve publication in the UK AIP</p>			