

Appendix H

Post-implementation review

When to undertake this activity		
Stage 1: Define	1A: Assess requirement	X
	1B: Design principles	X
Define gateway		
Stage 2: Develop and assess	2A: Options development	X
	2B: Options appraisal	X
Develop and Assess gateway		
Stage 3: Consult	3A: Consultation preparation	X
	3B: Consultation approval	X
Consult gateway		
	3C: Commence consultation	X
	3D: Collate and review responses	X
Stage 4: Update and submit	4A: Update design	X
	4B: Submit proposal to CAA	X
Stage 5: Decide	5A: CAA assessment	X
	5B: CAA decision	X
Decide gateway		
Stage 6: Implement		X
Stage 7: Post-implementation review		✓

What does this activity entail?

The change sponsor collects and publishes data on how the airspace change has performed over a 12-month period. During a defined window at the end of that 12-month period, stakeholders can provide their own feedback to the CAA. The post-implementation review is an assessment of whether the anticipated impacts and benefits in the original proposal and published decision are as expected and, where there are differences, what steps (if any) the CAA requires to be taken.

PPR proposals

References in this appendix to the airspace change process, airspace change proposals and changes in airspace design can also be read as referring to the PPR process and PPR proposals by an air navigation service provider, except that for a PPR the following apply:

- the air navigation service provider carries out the post-implementation review, which is reviewed and assessed by the CAA
- timescales are set out in Part 2 of this document under Stage 7
- the description of the outcome from the post-implementation review in paragraph H10 is replaced by that in paragraphs 482 and 483.

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Why is this activity included in the process?

H1. While the impact of any particular airspace change can, in most cases, be simulated and the subsequent outcome predicted, there may be unpredicted consequences that appear once a change is implemented. These consequences could be safety-related, operational, technical or environmental. The post-implementation review is an assessment of whether the anticipated impacts and benefits in the original proposal and published decision are as expected, and where there

are differences, what steps (if any) the CAA requires to be taken. The review is necessary to identify any subsequent requirements to further modify flight procedures or the airspace structure (as applicable) to give effect to the terms of the original CAA decision (Stage 5), the need for which can only be determined after a period of operational experience, post-implementation. In addition, it is important to establish whether any conditions placed on the original CAA approval have been met.

H2. The post-implementation review does not, however, set out to re-run the original decision associated with the airspace change.

Key terms to check in our glossary

Air navigation service provider	Air safety report	Airprox report
Airspace design	Airspace infringement	Airspace structure
Communications, navigation and surveillance infrastructure	Continuous Climb Operations (CCO)	Continuous Descent Operations (CDO)
Feedback	Flight procedures	Instrument flight procedures (IFP)
Letter of Agreement	Mandatory occurrence report	Planned and permanent redistribution of air traffic (PPR)
Portal	Standard Arrival Route (STAR)	Standard Instrument Departure (SID)

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How to undertake this activity

Data collection

H3. When the change sponsor receives a decision document from the CAA, it will include the data the CAA expects the change sponsor to collect to aid the post-implementation review. This data may need to be collected incrementally. The types of data that the change sponsor may be required to provide, why it may be needed and how it is assessed are shown in Table H1 later in this Appendix. The CAA may also advise the change sponsor of additional data requirements after the decision has been published.

Timescales

H4. The post-implementation review will usually commence 12 months after the change has been implemented. If it is deemed unlikely that the necessary data will be available after 12 months, the CAA will be prepared to consider an extension to allow for a better data sample (see Stage 7).

H5. The data collected by the change sponsor and any analysis required to be undertaken by the change sponsor under the terms of the review will be published on the **online portal** 28 days after the post-implementation review commences. Following the publication, the change sponsor may be required to submit supplementary data should the need arise.

H6. After this data is published, stakeholders will have 28 days in which to submit any evidence or views on the data that they want the CAA to take into account as we carry out the post-implementation review. The change sponsor will make relevant stakeholders aware (including those who responded to the consultation and permitted the change sponsor to contact them again) and direct them towards the online portal to submit their feedback. We give no assurance that we will take account of submissions received outside of this period.

H7. The CAA will usually publish the results of the review within three months of receipt of the change sponsor's data. This period may be extended in the event that:

- a large volume of feedback is received, to allow for the additional analysis required, or
- assessment of the original data set leads the CAA to request further data from the change sponsor.

Analysis

H8. The CAA's review of the sponsor's analysis of the data collected as part of the post-implementation review will consist of the following:

1. An **assessment** comparing the actual **operational** impact of the change against the impact forecast in the original options appraisal and subsequent formal proposal. This assessment contains:
 - an assessment of whether the level of detail supplied by the change sponsor as part of the post-implementation review met the requirements outlined in the original decision document
 - an assessment of the ongoing operational situation and the current operating environment
 - an assessment of how the airspace change has, or has not, delivered the forecast operational benefits
 - an assessment of whether adequate resource has been applied to deliver the change and whether adequate communications, navigation and surveillance infrastructure remains in place
 - an assessment of the actual operational impacts to all airspace users and airfields, and on traffic levels, and whether these differ markedly from those forecast.

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2. An **assessment** of the **environmental** impacts which reviews the environmental assessment provided by the change sponsor and considers whether the actual impact is as predicted. The assessment will also consider whether any assumptions in the original environmental assessment remain valid. The change sponsor must either:

- confirm that the impacts are as anticipated and presented in the approved airspace change proposal (together with any necessary supporting evidence), or
- present a re-assessment of the impacts that were presented in the airspace change proposal using actual data to update the results.

3. An **assessment** of the **feedback**, comprising:

- feedback that the change sponsor has received in the period since the change was implemented (the change sponsor will need to maintain a database of that feedback and provide it to the CAA in the form set out in Table H1), and
- feedback that the CAA has received in the period since the change was implemented, which the CAA will provide to the change sponsor for inclusion in its feedback database, and
- feedback received by the CAA during the 28-day window via the online portal.

H9. Together these assessments will seek to identify the core issues associated with the impact of the change and any unforeseen consequences that may need to be addressed as part of the review.

Outcome from the post-implementation review

H10. The post-implementation review can lead to two possible outcomes. The CAA may:

- confirm that the implemented design satisfactorily achieves – within acceptable tolerance limits – the objective and terms of the CAA's approval, and the change is confirmed; or
- require modifications to better achieve the objective and terms of the CAA's approval; once the modifications have been implemented and operated for a period (approximately six months), there are three further possible outcomes:
 - noting that the modifications did not better achieve the objective and terms of the CAA's approval, the CAA may conclude that the original design was satisfactory and the original change is confirmed; or
 - noting that the modifications did not better achieve the objective and terms of the CAA's approval, the CAA may conclude that the original design was not satisfactory and the original change is not confirmed. In this case, in order to pursue its change, the change sponsor will need to commence a fresh airspace change proposal from Stage 1; or
 - the CAA may conclude that the modifications do better achieve – within acceptable tolerance limits – the objective and terms of the CAA's approval and so the modified design is confirmed.

H11. Even where the change has been found to have achieved the objectives expected within the tolerances proposed, it may be appropriate for the change sponsor to carry out further mitigation or engagement activity to address issues that have emerged during the course of the airspace change.

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H12. In the event that the review identifies the need for modification to the airspace design (for the reasons set out above), the change sponsor will be required to identify a timeline for modification, simulation and/or validation, CAA design approval (if required) and implementation. This timeline will be published on the online portal. Typically, the original airspace design will remain in operation until the amended design is implemented. Once implemented, the revised airspace design will be monitored, nominally for a six-month period. During that time, stakeholders will be able to provide feedback on the revised design via the online portal. Following the monitoring period, the CAA will assess the impact of the amended airspace design using the criteria established for the original post-implementation review.

H13. In the event that the modified airspace design does not meet the requirements set out in the post-implementation review, consideration will be given to returning the airspace to its original design structure. Any further change will be subject to a new airspace change proposal. In some cases, returning the airspace to its original design may not be possible because of interdependencies with adjoining airspace structures and operations. In that event, the CAA will work with the change sponsor and then make a decision as to what will happen in the meantime.

The change sponsor's post-implementation review submission

H14. Table H1 overleaf sets out a list of the potential data sets the CAA may require the change sponsor to submit for the CAA's post-implementation review assessment. This list is not exhaustive, and some requirements will not apply in every case.

H15. Where the data illustrates impacts other than those anticipated, the change sponsor will need to provide (and evidence) its analysis of why this is the case.

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Table H1: Potential post-implementation review data requirements

Data/information	Why it is needed	How it is assessed
<p>Safety data – incidents related to the airspace design:</p> <ul style="list-style-type: none"> • Recurring instances of Instrument Flight Procedures (IAPs, SIDs, STARs, Holds) not being flown correctly to be notified to the appropriate CAA IFP regulator who approved the procedure. • Mandatory Occurrence Reports • AIRPROX reports • Air Safety Reports 	<p>The change sponsor will need to provide data to enable an assessment whether that the new airspace design is at least as safe as the original design, if not safer (taking into account changes in traffic levels)</p>	<p>The CAA will review the change sponsor's statistics concerning these events and assess whether the revised airspace design is a contributory factor in those incidents</p>
<p>Service provision/ resource issues</p> <ul style="list-style-type: none"> • data on refusals of service • data on air traffic delays • details of additional resource allocated, taking into account daily and seasonal traffic patterns 	<p>The change sponsor will need to demonstrate that adequate resources are in place to facilitate the operation of the new airspace design, and that air traffic services are being provided as forecast in the original proposal without unanticipated impact on other airspace users</p>	<p>The CAA will assess whether there is adequate resource in place to support the operation comparing the change sponsor's data with the approved proposal</p>
<p>Utilisation of Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO)</p> <ul style="list-style-type: none"> • % achieving CCO and/or CDO, compared monthly before and after the change (i.e. comparing the month of July before and after the change) 	<p>Where the original change cited improvements in CCO/CDO utilisation, the change sponsor will need to provide data to demonstrate any subsequent improvement</p>	<p>The CAA will assess whether the anticipated benefit has been delivered comparing the change sponsor's data against the approved proposal</p>

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Table H1: Potential post-implementation review data requirements (continued)

Data/information	Why it is needed	How it is assessed
Infringement statistics <ul style="list-style-type: none"> • % change in infringements, compared monthly before and after the change 	Where the revised airspace design changes the dimensions of controlled airspace, the change sponsor will need to provide an analysis of airspace infringements	The CAA will assess whether the airspace design was a contributory factor in any increase in infringements. Was an infringement risk identified in the approved proposal and has it been mitigated?
Traffic figures (air transport movements) <ul style="list-style-type: none"> • actual vs predicted figures • % change compared monthly before and after the change • reconfirmation that there have been no factors that would cause a material change to the traffic forecasts provided in support of the original proposal, i.e. that the original forecasts are still reasonable 	Traffic figures over the period will give a general overview of the nature of the operation following the implementation of the change. In addition, where the change was predicated on a forecast increase in traffic numbers, the change sponsor will need to confirm whether or not the increase forecast in the approved proposal has been realised	The CAA will consider the extent of any difference between the predicted and actual traffic figures and the extent to which the impacts of the change can be explained by those differences
Traffic dispersion comparisons <ul style="list-style-type: none"> • graphical representation (traffic density plots) • lateral and vertical analysis 	It is necessary to establish whether aircraft are flying to routes forecast in the approved proposal. A key part of the CAA's post-implementation review will be to analyse the 'before and after' dispersal of aircraft to understand whether the new airspace design is being operated as anticipated	The CAA will assess whether the dispersion of traffic is as anticipated in the approved proposal

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Table H1: Potential post-implementation review data requirements (continued)

Data/information	Why it is needed	How it is assessed
Operational feedback: <ul style="list-style-type: none"> air safety reports direct feedback from airlines relevant flight operation sub-committee (sub-group of airport consultative committee) 	The change sponsor will have to present any feedback directly received by aviation stakeholders operating in, or affected by, the revised airspace design	The CAA will assess whether there have been any unforeseen or unintended operational impacts of the proposal
Denied access statistics <ul style="list-style-type: none"> refusals of access (month on month/ before and after the change) reasons for individual refusals of access 	This links to service provision/ resources mentioned above. The change sponsor provides data on refusals of access to the revised airspace design and any underlying factors	The CAA will assess whether other airspace users are being impacted other than as anticipated as a result of the change. CAA will analyse the reasons for any refusals
Utilisation of SIDs/STARs/ instrument flight procedures <ul style="list-style-type: none"> % of flights achieving track keeping, compared month on month before and after the change 	Information concerning the utilisation of the various procedures implemented as part of the change. The information may highlight areas of unforeseen consequence, for example where a particular procedure is being used more than anticipated with a subsequent impact	The CAA will assess whether the utilisation data is other than expected
Letters of Agreement (LoAs) <ul style="list-style-type: none"> operational agreements between ANSPs and airspace users data on activation/ utilisation of LoA procedures 	Where a Letter of Agreement detailing specific procedures was a specific condition of the CAA approval, the change sponsor will need to evidence the level of use of that agreement	The CAA will assess whether any LoAs have had the anticipated effect of mitigating the impact of the change on stakeholder activities

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Table H1: Potential post-implementation review data requirements (continued)

Data/information	Why it is needed	How it is assessed
<p>Impact on environmental factors (including noise)</p> <p>In general, change sponsors will undertake a re-assessment of the impacts that formed part of the original proposal. Depending on the Level and scale of the proposal that may include:</p> <ul style="list-style-type: none"> re-assessment of noise impacts, taking account of actual traffic patterns and traffic volumes re-assessment of CO₂ emissions, taking account of actual traffic patterns and traffic volumes 	<p>The change sponsor will have to either:</p> <p>(a) confirm that the impacts are as anticipated and presented in the approved airspace change proposal (together with any necessary supporting evidence); or</p> <p>(b) present a re-assessment of the impacts presented in the airspace change proposal using actual data to update the results</p>	<p>The CAA will review and assess the change sponsor's analysis and determine the extent to which the CAA agrees</p>
<p>International obligations – impact</p> <ul style="list-style-type: none"> details on any feedback from operators or neighbouring States 	<p>The change sponsor will need to demonstrate that any international obligations identified at the time of the change have been discharged</p>	<p>The CAA assesses whether the obligations have been met</p>
<p>Impact on Ministry of Defence operations</p> <ul style="list-style-type: none"> details on any feedback from Ministry of Defence 	<p>The change sponsor will need to demonstrate that there has been no unforeseen impact on Ministry of Defence operations</p>	<p>The CAA assesses whether there has been any unforeseen impact on the Ministry of Defence that would need rectifying</p>
<p>Stakeholder feedback (in the format specified by the CAA)</p> <ul style="list-style-type: none"> feedback/complaints received by the change sponsor and CAA in the period between implementation and post-implementation review details of location of complaints 	<p>Feedback is needed to identify any issues from a community perspective that were not anticipated as part of the approved proposal; monthly data over the course of a year is needed so that seasonal traffic changes are taken into account</p>	<p>An assessment is made to identify any unforeseen or unintended impacts of the proposal</p>