



Standing Committee Safety

**Coordination Agreement for
Multi-Actor Changes
(CAMAC)**


DOCUMENT SUMMARY

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Management summary

This document is the FABEC manual for the coordination of multi-actor changes. It provides instructions and guidance for:

- informing potentially affected actors (service providers and aviation undertakings) of planned changes;
- determining relevant dependencies, assumptions and risk mitigations in coordination with affected actors;
- using agreed and aligned assumptions and risk mitigations in the arguments for such changes.

This document makes part of the FABEC ANSPs' means of compliance to IR (EU) No. 2017/373 for requirements ATM/ANS.OR.A.045 (a)(3), (b), (e), and (f). It was developed for application to changes involving more than one FABEC ANSP, but can also be applied to other multi-actor changes in- and outside FABEC.

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1 Introduction

1.1 Purposes

This document is the FABEC manual for the coordination of multi-actor changes. It provides instructions and guidance for:

- informing potentially affected actors (service providers and aviation undertakings) of planned changes;
- determining relevant dependencies, assumptions and risk mitigations in coordination with affected actors;
- using agreed and aligned assumptions and risk mitigations in the arguments for such changes (i.e. safety argument or safety support argument).

The document is accompanied by an optional template [CAMAC template].

This document makes part of the FABEC ANSPs' means of compliance to the EU Implementing Rule No. 2017/373 [IR 2017/373], for requirements ATM/ANS.OR.A.045 (a)(3), (b), (e), and (f) and associated Acceptable Means of Compliance (AMC) [AMC/GM 2017/373]. It replaces the former FABEC Safety Risk Assessment Process [FABEC SRAP], which included several options for joint safety assessment of FABEC wide changes, including a common FABEC safety assessment method and safety criteria [Option 3 method].

It is stressed that many of the coordination activities described in this manual are not new. They were usually also conducted for changes before the formal introduction of the considered requirements in IR (EU) 2017/373. This manual provides a framework for structurally conducting such activities, and documenting these in a way compliant with the EU requirements.

This document was developed for mandatory application to changes involving more than one FABEC ANSP. It can also be applied to other multi-actor changes in- and outside FABEC.

It is considered advantageous if the document is also applied in a wider range than only within FABEC. Therefore, this document is public, and its sharing is explicitly encouraged.

1.2 Scope

This document applies to the changes of a service provider (SP) to its functional system that potentially affect other SPs or aviation undertakings (AUs). Other changes, such as those limited to an SP's management system or safety management system, are out of scope of this manual.

The scope of this document is limited to providing instructions and guidance for the coordination activities with other service providers and aviation undertakings required for implementation of such multi-actor changes.

Where useful it informs about coordination with and between the relevant Competent Authorities (CAs, usually the National Supervisory Authority or NSA)), yet that coordination is addressed in the processes and manuals of the individual organizations.

1.3 Structure

This document is structured as follows:

- This Section 1 provides an introduction.
- Section 2 discuss principles and basics for coordination of multi-actor changes.
- Section 3 describes the steps to follow.
- Section 4 describes the documentation of the coordination.
- Section 5 provides examples.

The document concludes with lists of acronyms, definitions, and references.

2 Principles and basics for coordination of multi-actor changes

2.1 Information flows

As stipulated by IR (EU) 2017/373, a European SP planning a change to its functional system shall notify this change to its respective competent authority, usually the NSA. The SP shall then also perform a safety assessment or safety support assessment for such a change. Moreover, IR (EU) 2017/373 provides specific requirements for the situation in which such planned change to a functional system affects other SPs or AUs. In this case, the change is considered a multi-actor change.

Possibly, the *affected SP* also needs to plan a change to its functional system to ensure that the multi-actor change is also possible and safe for them. In that case the affected SP shall also notify that change to its respective competent authority, and also perform a safety assessment or safety support assessment.

Alternatively, it is possible that the *affected SP* can handle the change using its existing (e.g., maintenance) procedures, within its operational envelope and without making a change to its functional system. Then still, the change is considered a multi-actor change.

The figure below sketches the possible information flows between the SPs, AUs, and competent authorities that may be involved in a multi-actor change. It includes information flows

- between each SP and its respective CA regarding the change (blue arrows).
- between the SP and other SPs (red arrows).
- between SPs and AUs (red arrows).
- between CAs (green arrows).

This CAMAC document provides instructions and guidance regarding the red arrows. Where useful it provides information about the other arrows, but those are primarily addressed in the processes and manuals of the individual organizations.

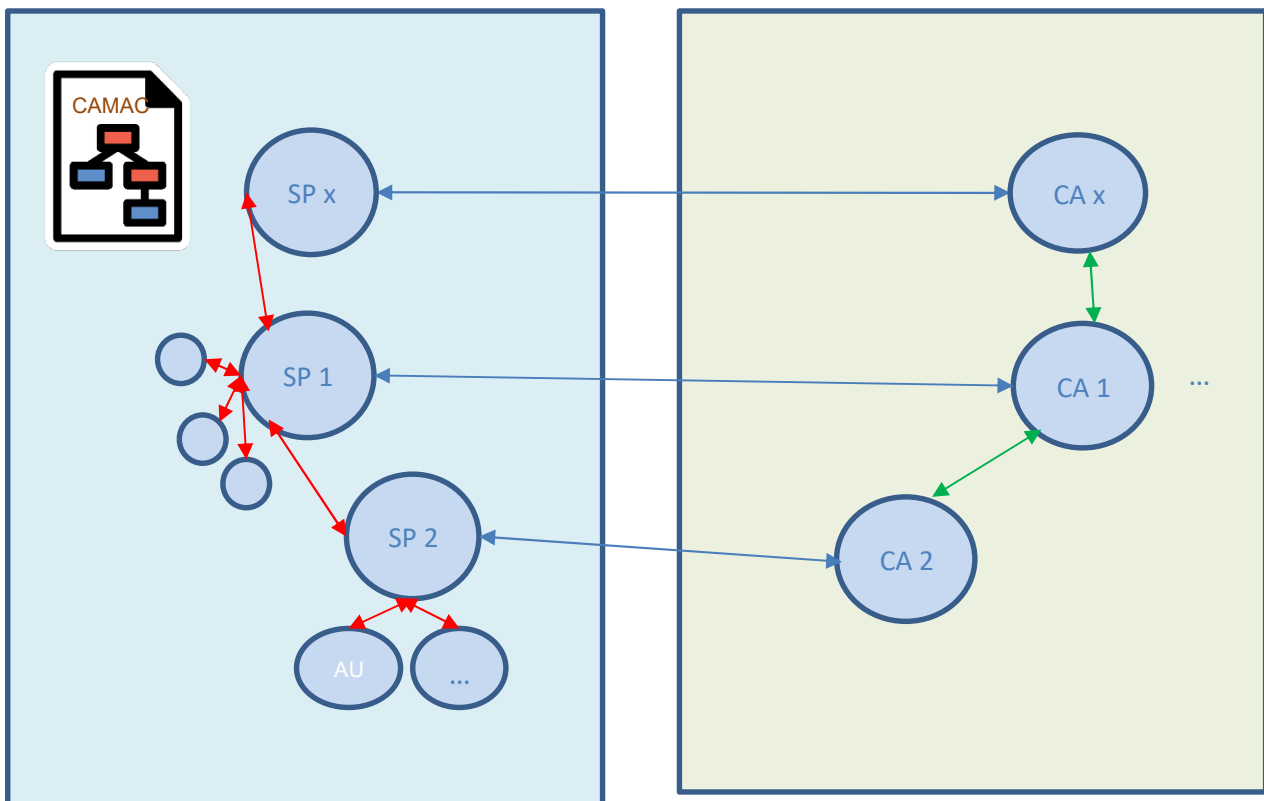


Figure 1: Possible information flows

2.2 *Service providers and aviation undertakings*

The definition list at the end of this document provides the EU definitions of service providers (SPs) and aviation undertakings (AUs). In short:

- SPs are the European providers of ATM/ANS services regulated by Regulation (EU) No 2018/1139 and its implementing rules; and
- AUs are all **other** entities, persons or organizations that are affected by or that affect a service delivered by a SP.

GM2 ATM/ANS.OR.045(e) clarifies that AUs can be understood as the stakeholders and professional associations with dependencies with the changed service, and that they may include:

- Service providers not regulated by Regulation (EU) No 2018/1139 and its implementing rules, such as non-European service providers
- Aerodrome operators
- Aircraft operators
- Airframe and equipment manufacturers
- Maintenance organizations
- Regulatory bodies, such as the European Commission, EASA, national aviation authorities (NAAs)
- Other bodies not regulated by Regulation EU) No 2018/1139 and its implementing rules, e.g. power suppliers or military authorities

The coordination with affected AUs may be more difficult than with affected SPs. However, the EU requirements on coordination with AUs are also less stringent than those on coordination with other SPs. For example, SPs changing their functional system need to inform potentially affected SPs individually, while they need to inform potentially affected AUs only where feasible, and possibly via a representative body or dedicated publication.

2.3 *Affected service providers and aviation undertakings*

This manual applies to changes to the functional system of an SP that **affect** other SPs and/or AUs. Such changes are termed multi-actor changes.

GM1 ATM/ANS.OR.A.045(e) clarifies that this is the case if there are **dependencies** between the SP planning the change and other SPs and/or AUs. Furthermore, it clarifies that this is the case if:

- the proposed change **alters the service** delivered to other SPs and AUs as users of that service, or
- the proposed change **alters the operational context** in which the services of other SPs and AUs are delivered or in which the AUs are operating.

A level of pragmatism can be involved in determining whether this is the case:

- The mere fact that a change leads to modifications in the AIP does not make it a multi-actor change. Many such changes are developed by existing processes according to existing standards, such as a standard ICAO conform flight procedure design. For pilots it is the normal procedure to prepare their flights with the AIP and they can be expected to be able to use ICAO-conform procedures. Hence, such change is not necessarily a multi-actor change¹.
- On the other hand, in case a change to the functional system of an SP requires adaptation of existing agreements contained in a Letter of Agreement (LoA) or Memorandum of Understanding (MoU) between two parties, then this may be an indication that the change does affect the other party.

¹ For some new/changed ICAO conform procedures, it might very well be important to coordinate with the pilots/airline side.

In case a change to the functional system of SP 1 affects SP 2, two situations can be distinguished for SP 2:

- SP 2 also makes a change to its functional system, to accommodate the change of SP 1. In this case SP 2 also needs to notify this change to its competent authority and to develop a safety argument or safety support argument.
- SP 2 does not need to make a change to its functional system to accommodate the change of SP 1. An example for this is when SP 2 handles an adaptation to a Letter of Agreement as part of its existing procedures, such as its maintenance procedures. In this case SP 2 does not notify a change to its competent authority, and does not need to develop a safety argument or safety support argument.

Similarly, in case a change to the functional system of an SP affects another AU, the AU may or may not need to make a change and/or to involve its competent authority.

The following example presents a few changes to consider whether they are a multi-actor change:

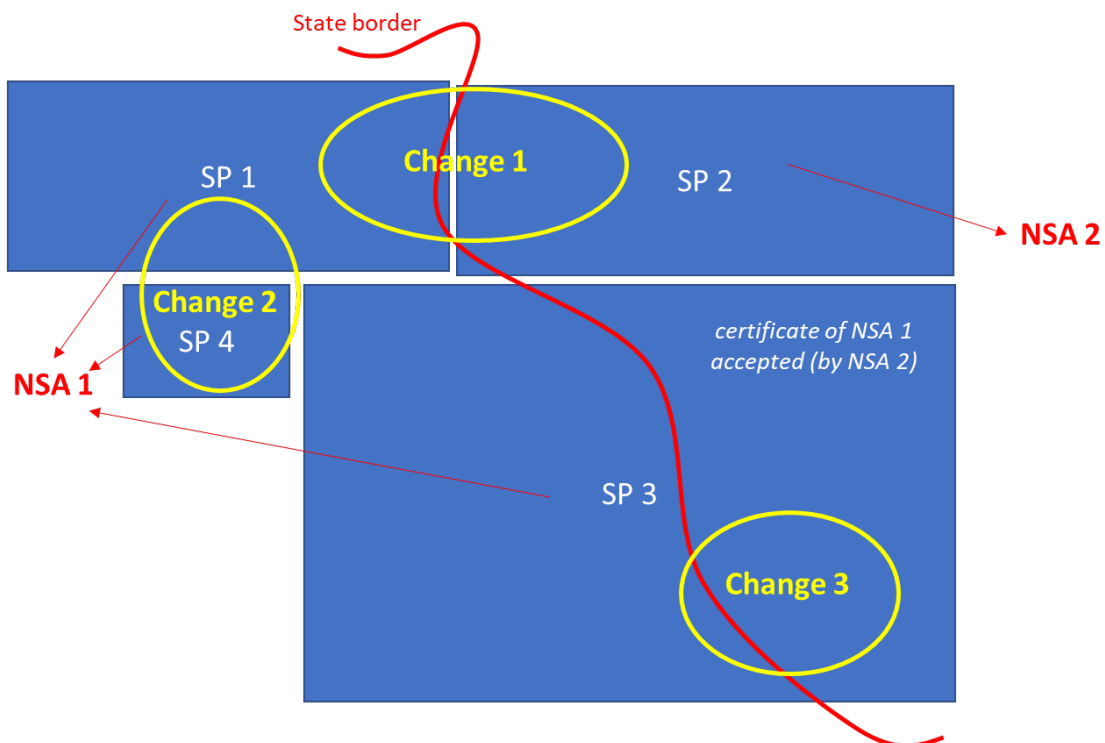


Figure 2: Examples of changes in a cross-border setting

In this example:

- Change 1 crosses the country border and involves SP 1 and SP 2 both making changes to their functional systems, each reporting to their own NSA. This is a multi-actor change.
- Change 2 is a change involving SP 1 and SP 4 both making changes to their functional systems, but both in the same country and involving just one NSA. This is a multi-actor change.
- Change 3 takes place in two countries, but it involves only SP 3 making changes to its functional system. This **is not a multi-actor change**, as it involves just 1 SP, even though it provides services in two countries through a service delegation.

This example demonstrates that the number of states in which a change takes place or the number of competent authorities involved does not determine whether a change is a multi-actor change. Determining is whether the change of an SP affects other SPs and/or AUs.

2.4 Coordination as mutual exchange of information

As a rule of thumb, coordination normally involves a mutual exchange of information between parties, and thus two-way information.

This can for example consist in an SP planning a change informing a potentially affected other SP, and the other SP answering that the change in fact does not affect it at all.

It is recognised that such mutual exchange with AUs is not always feasible, but the change initiator should aim to inform and coordinate with even the AUs.

2.5 Overarching safety argument (OASA)

Only for changes in which multiple SPs make a change to their functional system, AMC1 ATM/ANS.OR.A.045(e) requires these SPs to develop an overarching safety argument (OASA). Such OASA is an argument that claims that the complete change is safe, and is coherent with the arguments of the individual changes.

Such OASA may be documented either in a joint document or as part of the arguments of the individual actors involved in the change.

For all clarity, an OASA is not required in case of, e.g.:

- A change to the functional system of SP 1 that only affects other AUs, and no other SPs.
- A change to the functional system of SP 1 that does affect another Service Provider SP 2, but for which SP 2 does not need to make any changes to its functional system. For such change SP 2 does not need to develop an argument. This could for example be a change that leads to an adaptation in the joint Letter of Agreement that SP 2 handles as part of its existing procedures, such as maintenance procedures.
- A change to the functional system of SP 1 that does affect another Service Provider SP 2, and for which SP 2 makes a change to its functional system; but both changes are assessed in a safety *support* assessment. It is usually not possible to claim that the complete change is safe²

Be aware however that also in that last situation, SP 1 and SP 2 are explicitly required to coordinate about the change, even though no OASA is required. Section 2.8 provides further explanations for distinguishing the different cases.

2.6 Timelines of coordination

As a general rule, the coordination of the multi-actor change needs to commence **at a very early stage** of the change development. It should be done as soon as a SP identifies that a planned change potentially affects other parties.

Early in the development of a change, the investments made in terms of time, money, or commitments are still limited and flexible. Involving other parties at a late stage can mean that safety issues related to those other parties are discovered at a late stage, potentially leading to adaptations to the change, redoing work, and delays.

This caveat regarding early start of coordination is valid both for coordination with potentially affected SPs and with potentially affected AUs, and for coordination with parties in- and outside FABEC.

² This does not mean that no coordination is necessary; coordination is still necessary as well as the performance of the local safety support assessments.

2.7 Planning of coordination

The several coordination activities should be planned at an early stage with the affected parties. It should be realized that potentially affected SPs and AUs may also need time to:

- Determine whether the change indeed affects them;
- Determine whether they also need to make changes to accommodate the (initiating) SP's change;
- Develop the safety argument or safety support argument for their change;
- Involve their competent authority in the approval of their change, following local procedures and local agreements regarding approval periods.

Furthermore, the involved authorities of the affected parties may also need time for evaluating the respective arguments for the changes of their SPs and/or AUs, and the authorities may also need to coordinate with each other.

Eventually, the implementation and entry into service of a multi-actor change may require completion of the arguments from all involved parties, and the associated approvals by all relevant authorities.

Topics to consider in the planning with affected parties may include:

- Identification and description of the change;
- Milestones and a schedule regarding the development of the change;
- Planning of the coordination for the change (e.g., time, roles and responsibilities, participants, etc.);
- Coordination of the involvement of the respective authorities (e.g., notification, when to expect decisions);
- Communication specifics (e.g., who is communicating to whom, when and about what);
- Where practical, the appointment of one of the involved SPs as "change initiator", who triggers the various coordination steps, and who may be the final editor in case of use of a joint document; and
- Coordination of safety assessment activities. This can also involve early exchange of partial safety assessment results or jointly performing selected safety assessment activities.

2.8 Overview of steps to follow and of different forms of coordination

This manual uses the following steps for coordination of multi-actor changes:

1. Informing other parties: The SP planning a change to its functional system informs potentially affected parties and keeps them informed.
2. Feedback from other parties: The informed parties report back whether and how they are affected.
3. Determining dependencies, assumptions and risk mitigations: The involved parties do this in coordination. In case multiple SPs change their functional systems it involves the development of an OASA.
4. Use of agreed and aligned assumptions and risk mitigations: The involved parties use the agreed and aligned assumptions and risk mitigations in their individual arguments.

As part of its own change management process, each SP that makes a change to its functional system also needs to include the list of affected parties in the change notification to its competent authority, in compliance with AMC1 ATM/ANS.OR.A.045(a). The SP could then also inform their competent authority whether the affected other SP(s) also make a change to their functional system(s), or not. It should however be realized that when a change is further developed, the decision result of the other SP might be different.

Often the above four steps need to be iterated, for example:

- Re-informing potentially affected parties after making modifications to the planned change to the functional system; and
- Re-visiting the determination of dependencies, assumptions and risk mitigations in case it appears that they are not sufficient for ensuring a safe change for one or more involved parties.

The following table distinguishes five cases regarding the type of impacted party (SP or AU), and whether and how that party is impacted. The table presents for each case which requirements apply to the SP planning a change to its functional system.

Case #:	1	2	3	4	5
Other party:	SP affected, change to functional system	SP affected, no change to functional system	SP not affected	AU affected	AU not affected
Requirement on SP making a change to its functional system					
<i>Include that party (other SP or AU) as affected in the notification to the competent authority³</i>	yes	yes	no	yes	no
Determine dependencies, assumptions and risk mitigations with that party	yes	yes	no	yes ⁴	no
Develop an OASA (with that party)	yes	no	no	no	no
Use assumptions & risk mitigations in individual arguments that are aligned and agreed with that party.	yes	yes	no	where feasible	no

Table 1: Requirements on an SP making a functional change, dependent on type of other party and nature of impact

Figure 3 illustrates the coordination with another SP in the three cases 1, 2, and 3 from Table 1, as a process in a chronologic sequence.

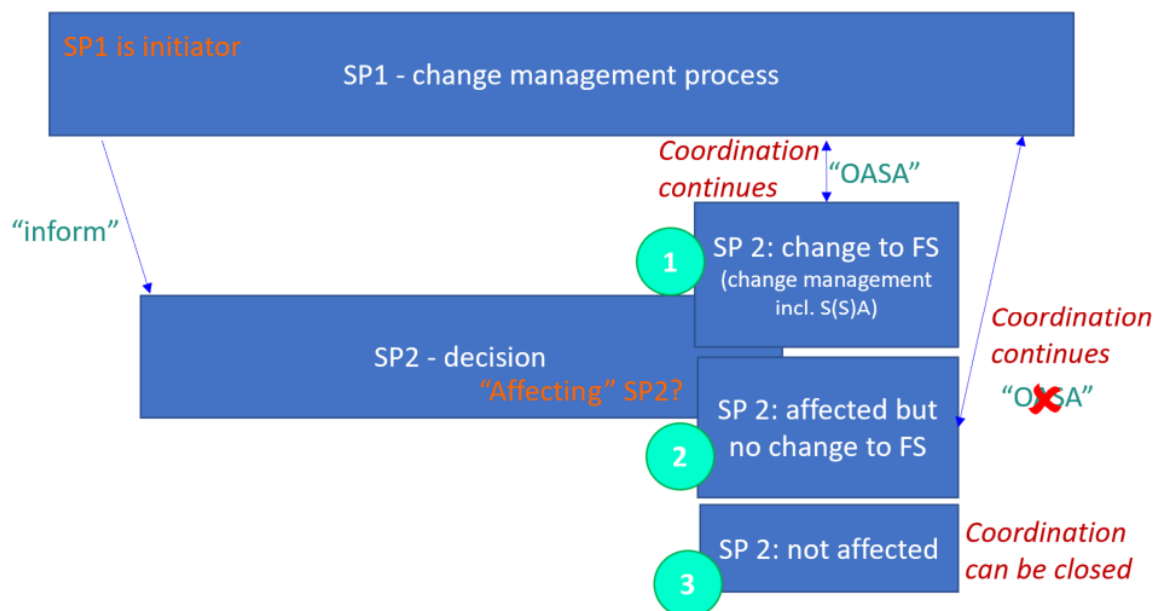


Figure 3: Illustration of cases involving only SPs

³ This row is *in italics*, since the requirement is addressed by the local change management processes of the SPs, and thus not part of coordination and the CAMAC document.

⁴ Only with AUs that could be informed about the change, and 'dependencies' only where feasible.

3 Steps to follow

An SP needs to follow these steps in case of a planned change to its functional system that potentially affects other SPs and/or AUs. Iteration of the steps may be needed.

3.1 Informing other parties

This step involves:

- individually informing each SP potentially affected by the planned change;
- where feasible, informing the AUs potentially affected by the planned change;
- informing these SPs and AUs again in case the previously provided information is modified or if the change is cancelled.

This step assures compliance with ATM/ANS.OR.A.045 (a)(3) and (b), and with AMC1 ATM/ANS.OR.A.045(a)(3).

It needs to be started as early as possible. The reason is that if one or more of the considered other parties is indeed affected (cf. Section 3.2), then several modalities of the change may need to be agreed with them (cf. Section 3.3). It is usually best to discover potential safety issues or other issues related to those other parties in an early stage, when investments in terms of time, efforts and money are still limited.

Determining which SPs are potentially affected is often straightforward. They need to be informed individually. To contact them, use can be made of existing communication channels, such as those used for agreeing on changes to the Letters of Agreement (LoAs), or those used for agreeing on appropriate windows for technical interventions.

Informing AUs may be done individually, or via a representative body or dedicated publication (e.g., AIC). The use of established working groups throughout the aviation sector for coordination is encouraged, especially in case the number of affected AUs is large.

In case after informing other potentially affected SPs and/or AUs, the SP planning a change to its functional system modifies its plan in such a way that it might alter the impact on other SPs and /or AUs, then the SP must re-inform those SPs and AUs.

3.2 Feedback from other parties

This step involves:

- Each SP informed of the change determining whether it affects them.
- Each SP affected by the change determining whether it will also lead to a change to their functional system.
- Where feasible, the AUs informed of the change determining whether it affects them or not.
- The informed SPs, and where feasible AUs, communicating the results back to the SP.

The rationale of this step is that it is the responsibility of each individual party to determine whether and how a change - of which it is informed - affects it. In other words, a SP or AU can only decide for itself, whether such change affects them. The initiating SP needs this information in order to know whether and how that SP or AU needs to be further involved, also in compliance with IR (EU) No. 2017/373.

The SP planning a change to its functional system also needs the result of this step for (updating of) the notification of the change to its competent authority. As part of their management of the change, SPs shall include the eventual list of affected SPs and AUs (AMC1 ATM/ANS.OR.A.045(a)) in such notification, and need to update this information in case of modifications (AMC1 ATM/ANS.OR.A.045(a)).

This step involves three possibilities for the other SPs, each with different consequences (as depicted in Section 2.8, Figure 3):

- **Other SP confirms that the change will lead to a change to their functional system (case 1):** In this case that SP is also required to notify that change to its competent authority, and to perform a safety assessment or safety support assessment for that change.
- **Other SP confirms that the change affects them; no change to their functional system (case 2):** In this case the other SP for example handles the change using existing procedures in their operational envelope. That SP is then not required to notify a change to its competent authority, or to perform a safety assessment or safety support assessment. But that other SP does need to remain involved in the next steps of coordination following this manual.
- **Other SP determines that the change does not affect it at all (case 3):** In this case that SP does not need to be involved in the next steps of coordination and the coordination can be formally closed. It is a good practice to at least formally file this information, also for future requests of the competent authority.

For the other AUs, similar cases may be distinguished.

For the SP planning the original change to its functional system, being the change initiator, it is beneficial to document the result clearly as part of its safety case, safety support case and/ or notification to its competent authority. This provides clarity to involved parties on whether the other SP is required to notify a change to its functional system and develop a safety support case or safety case.

In the case of getting feedback from other parties that they are indeed affected, this is also the logical moment to plan subsequent steps together, in line with the general information provided in Section 2.7.

3.3 **Determining dependencies, assumptions and risk mitigations**

This step involves:

- Determining in coordination with the affected SPs: the dependencies between the SPs, and where feasible with the affected AUs;
- Determining in coordination with the affected SPs: the assumptions and risk mitigations that relate to more than one SP or AU; and
- Only in case multiple SPs change their functional systems: developing an overarching safety argument (OASA).

This step assures compliance with ATM/ANS.OR.A.045(e) and AMC1 ATM/ANS.OR.A.045(e).

It eventually needs to result in agreed and aligned assumptions that can be used in the arguments of the involved parties for the change, such as the involved SPs safety cases and/or safety support cases (cf. Section 3.4). This way, each involved party should eventually be able to positively decide on the safety acceptability of the change.

While it is recognized that mutual exchange with AUs is not always feasible, the change initiator should aim to inform and coordinate also with the AUs. If it is feasible to inform the AUs, they should also be involved in determining relevant assumptions and risk mitigations, and where possible dependencies.

It is noted that for SPs performing a safety support assessment, formally, no risk mitigations can be identified, because there is no risk assessment. Nevertheless, improvements might be necessary to fulfil the service specification. Those may play a role in risk mitigations of another SP or AU involved.

The development of an OASA is only required for situations in which two or more SPs change their functional system, unless they all perform safety support assessments⁵.

The OASA consists at least of:

- an overall claim that each of the related SPs changing its functional system considers the overall change (i.e. including the interface and the part of the other SPs) acceptably safe; and
- the necessary supporting arguments and evidence for this overall claim, including at least:
 - The coordination performed regarding dependencies, assumptions and risk mitigations, or a reference to that coordination;
 - The safety conclusions of the individual SPs, and/ or the unique references to these.

The development of an OASA may well involve change developers and safety practitioners of the involved organizations:

- Usually the change developers of involved organizations firstly need to agree on the modalities of a change, including dependencies, assumptions, and risk mitigations; and
- Usually safety practitioners need to be involved in determining whether the resulting change including all dependencies, assumptions and risk mitigations is indeed safe.

Whereas not explicitly required, it may in certain situations be useful to exchange partial safety assessment results and/or perform parts of the safety assessment activities in coordination. This could involve for example an early exchange of hazard identification results between the involved SPs, or jointly performing a hazard identification session.

3.4 Use of agreed and aligned assumptions and risk mitigations

This step involves:

- Ensuring that the involved SPs only use agreed and aligned assumptions and risk mitigations with each other in their arguments for the change; and
- Ensuring where feasible that the involved SPs only use assumptions and risk mitigations that have been agreed and aligned with affected AUs in their arguments for the change.

This step assures compliance with ATM/ANS.OR.A.045(f). This step only considers the assumptions and risk mitigations that relate to more than one SP and/or AU. The SPs can handle all other assumptions and risk mitigations, which are not shared by affected SPs and/or AUs, independently.

As part of this step, each involved SP assures for itself that their individual arguments for the change only uses the assumptions and risk mitigations that were agreed and aligned upon with the other involved SP(s). Accordingly, this step is documented entirely in the individual arguments of involved parties.

In case any of the involved SPs comes to the conclusion that this is not possible, it should contact the other involved SPs to revisit the previous step (cf. Section 3.3).

⁵ In the case of all SPs producing an SSA (i.e. only changing the functional system for other services than ATS), no statement regarding safety acceptability is possible and therefore no OASA can be produced. In this case the local SSAs are coordinated.

4 Documentation

The coordination activities of Sections 3.1 through 3.3 may either be documented using a joint report or using the documents with the individual arguments of involved parties.

The activities of Section 3.4 are documented in the involved SP' individual safety cases and/or safety support cases.

4.1 Joint report

A joint report can be used for documenting the coordination activities and its results. The optional FABEC template is separately available for this [CAMAC template]. The template can harmonize the information exchange. It includes dedicated sections for documenting:

- (1) The SPs and AUs affected by a change, including a statement on whether the affected SPs also change their functional system or not;
- (2) The dependencies, assumptions, and risk mitigations;
- (3) The OASA (only for situations in which multiple SPs plan a change to their functional system).

In case the optional FABEC template is not used, the contents regarding the above listed three issues need to be documented in a different way.

In case of use of a joint report, all parties need to agree on its degree of confidentiality.

Formal agreement by SPs/AUs:

The following strategies may be used for formalising the agreement of such joint report by all involved SPs and AUs where feasible:

- endorsed minutes of the meeting in which the respective decisions were taken and/or the information exchanged,
- emails exchanging agreement, and/or
- collection of signatures from all related management of all involved organizations.

4.2 Separate reports

In this case the coordination results of the SPs and/or AUs are documented in the arguments of the individual involved SPs, usually their safety cases or safety support cases. This then needs to include at least:

- Which SPs and AUs are affected by the change, including a statement on whether the affected SPs also change their functional system or not;
- The agreed and aligned dependencies, assumptions, and risk mitigations;
- Only for changes involving multiple SPs planning a change to their functional system: The overarching safety argument.
- Clear and thus traceable reference to the evidence for the position of the affected SPs and AUs regarding the three previous points.

In case of use of separate reports, each partner can select its degree of confidentiality in line with local requirements.

Formal agreement by SPs/AUs:

In this case each SP follows the internally applicable processes for formalising the finalisation of its own report with the argument, which includes the information that has been separately agreed upon. As the documents include agreed information and refer to the same evidence (e.g., e-mail exchange), formalisation of the individual reports also implies formalisation of the agreed information.

5 Examples

5.1 Affected SP not changing its functional system

This section illustrates the situation in which a change to the functional system of a service provider SP 1 does affect another service provider SP 2, but in which SP 2 does not make a change to its functional system.

Example situations for this are:

- SP 1 renews a navigation beacon, while SP 2 applies an existing degraded mode for temporarily operating without the beacon during the transition.
- SP 1 makes a change to ATS routes, which leads to a slightly different routing into the airspace of SP 2, leading to an adapted LoA between the two SPs but with SP 2 handling the LoA adaptation using existing procedures because there is no material impact on the functional system for them.

In this case only SP 1 will notify the change to its competent authority. Also, SP 1 is the only SP that is required to develop a safety argument for the change. Nevertheless, SP 1 does include SP 2 in the list of affected SPs in its notification to its competent authority. Figure 4 illustrates this situation.

SP 1 can inform their competent authority that SP 2 does not change its functional system. This may prevent suspicion and/ or unnecessary questions. It should however be realized that when a change is further developed, the decision result of the other SP might be different.

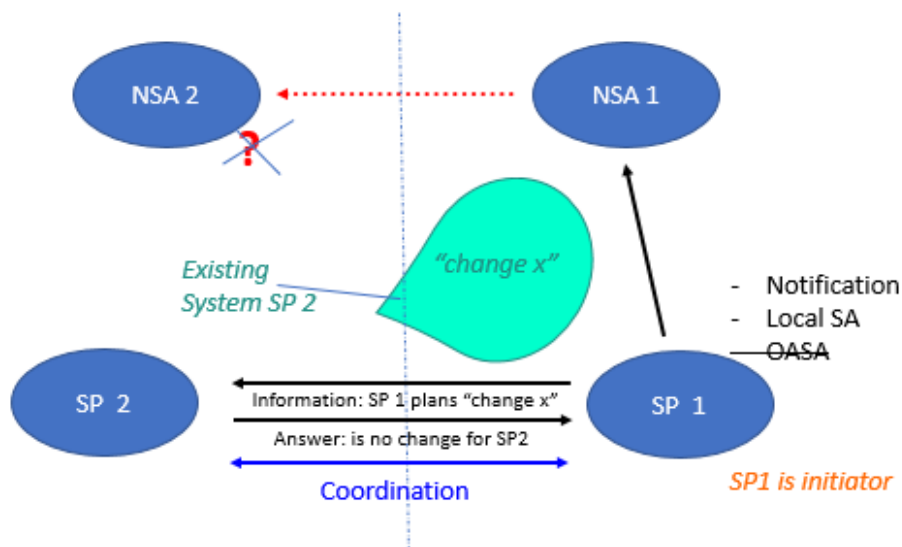


Figure 4: Notification example for cases 2 & 3

5.2 Transfer levels change

This is an example for Case 2 from Section 2.8, Table 1 (SP affected, no change to functional system).

SP 1 changes its arrival routes. To improve the arrival procedures and to make them safer, the lateral sector boundaries between the ACC sector and APP sector of SP 1 are lowered from FL135 to FL115. Therefore, also the transfer levels at the coordination points 1, 2, and 3 along the boundary to SP 2 need to be adapted. The coordination points (COPs) and their location remain the same.

At SP 1, different sectors are responsible for receiving inbound traffic from SP 2 via the three coordination points, depending on the transfer level of the aircraft. After the change, due to the lowering of the lateral airspace boundary to FL115, one unique sector becomes responsible for receiving the inbound traffic from SP 2.

The two SPs already have an agreed LoA describing the procedures at their boundary.

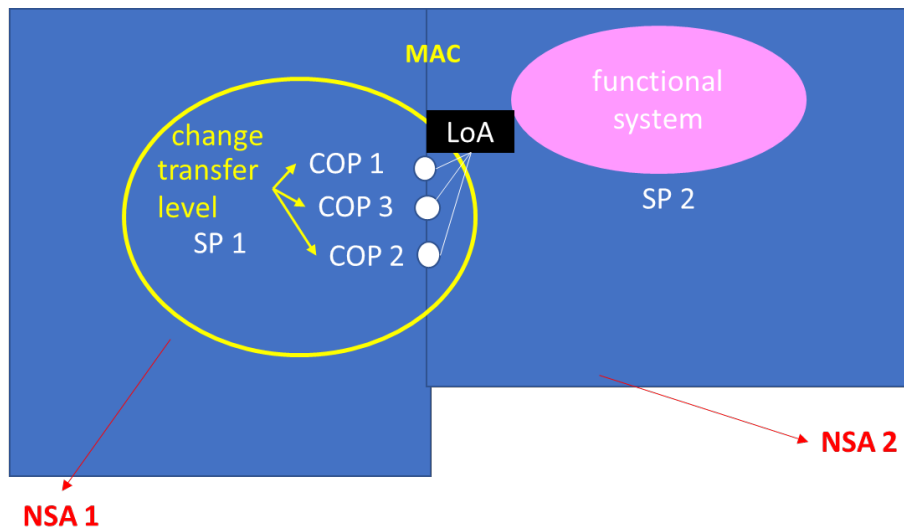


Figure 5: Example: Change of transfer levels

Coordination:

The SP follow the steps of Section 3:

1. Informing other parties: SP 1 informs SP 2 about the planned change, including the proposed new transfer level and responsible sectors.
2. Feedback from other party: The changed transfer levels are within a previously agreed range. SP 2 therefore concludes that the change stays within its operational envelope. It informs SP 1 that the change does affect them, but that SP 2 does not need to make a change to its functional system. Based on this, only SP 1 notifies the change to its competent authority, indicating that SP 2 is affected. It may also inform its competent authority that SP 2 has no change to its functional system.
3. Determining dependencies, assumptions and risk mitigations: The change of a transfer level and the change of a responsibility of a sector within a well-known procedure is “daily business” for the ATCOs. Therefore, the changed items have been adapted in the existing LoA and the ATCOs receive a briefing on the changed LoA. Risk mitigations are not necessary in this case.
4. Use of agreed and aligned assumptions and risk mitigations: SP 1 uses the assumption agreed with SP 2 in its safety case. All other assumptions in its safety case are not related to the impact of the change on SP 2.

It is noted that in case the two SPs would provide the services considered both in the same country, that then all these coordination steps would still be the same. The main difference would be that there would then be just one NSA involved.

Documentation:

SP 1 includes the result of the coordination (shared assumptions, dependencies, risk mitigations) within its safety case. As evidence it refers to the signed updated LoA and the e-mails exchanged.

5.3 Change with local airport

This is an example involving just one SP and one AU: a local airport.

In the example considered the airport plans major maintenance works on one of the runways of an airport with multiple runways. The works stretch over many weeks, and consist of several phases, each with their own impact on the ATS services. The SP and airport develop an AIP supplement demonstrating the impact in each of the phases. While the only difference in situation after the change is the renewed concrete and other

material, the SP does consider it a change to the functional system, because of the new transition involving various phases and some new workarounds.

Coordination:

In this case the airport initiates the change, and contacts the SP. The SP determines that it is a change to its functional system. Moreover, it is the SP who identifies that according to its change management procedure such multi-actor change needs coordination. As no other FABEC ANSP is involved, use of this manual is optional. For the sake of this example, the SP follows the steps of Section 3:

1. Informing other parties: The SP informs the airport that according to its procedures this multi-actor change needs coordination.
2. Feedback from other party: The airport informs the SP whether it also needs to perform a safety assessment for the change; in this example it does.
The SP also notifies the change to its competent authority, indicating that the airport is affected.
3. Determining dependencies, assumptions and risk mitigations: In this step the SP and the airport determine the relevant dependencies, assumptions and risk mitigations. Examples of this are:
 - The entire AIP supplement with foreseen phases and workaround is a shared assumption.
 - A shared risk mitigation is that the airport will ensure that the works are stopped in time before low visibility procedures are started.
 - A further shared risk mitigation is that the construction vehicles will never use active runways or taxiways.
 - A dependency is that the airport will ensure that the works will never take place outside the hours agreed with the SP.
4. Use of agreed and aligned assumptions and risk mitigations: The SP uses the agreed assumptions in its safety case. The airport does the same when applying its own safety assessment process.

Documentation:

The SP documents the results of the coordination (shared assumptions, dependencies, risk mitigations) within its safety case. As evidence it refers to the AIP supplement, and the e-mails exchanged.

The airport may do the same.

Acronyms

Acronym	Full description
ACC	Area Control Centre
AFG	ANSP FABEC Group
AMC	Acceptable Means of Compliance
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
APP	Approach Control
ATM	Air Traffic Management
ATS	Air Traffic Services
ATSP	Air Traffic Services Provider
AU	Aviation Undertaking
CAMAC	Coordination Agreement for Multi-Actor Changes
COP	Coordination Point
EU	European Union
FABEC	Functional Airspace Block Europe Central
GM	Guidance Material
ICAO	International Civil Aviation Organization
IR	Implementing Rule
LoA	Letter of Agreement
MoU	Memorandum of Understanding
NSA	National Supervisory Authority
NSAc	FABEC National Supervisory Authority committee
OASA	Overarching Safety Argument
PoC	Point of Contact
SCS	FABEC Standing Committee Safety
SMS	Safety Management System
SA	Safety Assessment
SP	Service Provider
SRAP	Safety Risk Assessment Process

Definitions

Terminology	Definition
Aviation undertaking	EU 2017/373 Part-Definitions (34): Aviation undertaking means an entity, person or organization, other than the service providers regulated by EU 2017/373, that is affected by or affects a service delivered by a service provider.
Competent authority	Based on Regulation (EU) No 2018/1139: An entity having the necessary powers and allocated responsibilities for performing the tasks related to certification, oversight and enforcement. For ATM/ANS services, the competent authority can be a national competent authority or EASA.
FABEC ANSPs	The members of the ANSP FABEC Group: ANA, DFS, DSNA, LVNL, MUAC, skeyes and skyguide. (Note: this excludes other ANSPs in the FABEC Member States).
Multi-actor change	GM1 ATM/ANS.OR.A.045 (e): A multi-actor change is a change to the functional system of a SP that affects one or more other service providers and/or aviation undertakings.
National competent authority	(EU) No 2018/1139 Article 3 (34): One or more entities designated by a Member State and having the necessary powers and allocated responsibilities for performing the tasks related to certification, oversight and enforcement in accordance with (EU) No 2018/1139 and with the delegated and implementing acts adopted on the basis of (EU) No 2018/1139, and with Regulation (EC) No 549/2004.
Overarching Safety Argument (OASA)	AMC1 ATM/ANS.OR.A.045(e): For changes in which more than one service providers change their functional systems, an overarching safety argument is an argument that claims that the complete change is safe, and that is coherent with the arguments of the individual changes.
Safety assessment	In summary, safety assessment is the process of analysing, evaluating and mitigating the safety risks of a change, eventually producing safety evidence to guarantee sufficient confidence for the assurance documented in the safety case, which also fulfils the requirements of ATS.OR.205.
Safety case	EU 2017/373 AMC1 ATS.OR.205(a)(2): A safety case is the documentation of the assurance required by EU 2017/373 ATS.OR.205(a)(2) - i.e. the document that provides the assurance, with sufficient confidence, via a complete, documented and valid argument that the safety criteria are valid, will be satisfied and will remain satisfied.
Safety support assessment	ATM/ANS.OR.C.005: The process leading to a safety support case and fulfilling requirements of ATM/ANS.OR.C.005.
Safety support case	AMC1 ATM/ANS.OR.C.005(a)(2): A safety support case is the documentation of the provision of assurance, with sufficient confidence, via a complete, documented and valid argument that the service will behave and will continue to behave only as specified in the specified context.
Service provider	Based on EU 2017/373 Article 2: Service provider means any legal or natural person providing functions or services of ATM/ANS (as defined in Regulation (EU) No 2018/1139, Article 3, item (5)) or other ATM network functions, either individually or bundled for general air traffic.

References

Ref.	Full description
[CAMAC template]	FABEC SRAP, Coordination of multi-actor changes. Optional template provided with this CAMAC document, which will also be made available via the FABEC website.
[IR 2017/373]	Commission Implementing Regulation (EU) 2017/373 of 1 st March 2017, see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R0373
[AMC/GM 2017/373]	Acceptable Means of Compliance and Guidance Material to IR (EU) 2017/373, see https://www.easa.europa.eu/acceptable-means-compliance-and-guidance-material-group/amcgm-regulation-eu-2017373
[Option 3 method]	FABEC Safety Risk Assessment Process Option 3: A common FABEC method – Method description, version 1.2, November 14, 2013
[FABEC SRAP]	FABEC Safety Risk Assessment Process, version 3.1, 14 November 2013 (FABEC_SCS_SRAP_v3.1).