

GUIDELINES

for coordination of cross-border high-risk commercial specialised operations

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| <p>This document is published on the basis of Article 1(3)(f) of Regulation (EU) 2018/1139 which states that the objectives of that Regulation shall be achieved by, inter alia: ‘the uniform implementation of all necessary acts by the national competent authorities and the Agency, within their respective areas of responsibility;’. Of relevance is one of the objectives enshrined in Article 1(2), namely to ‘promote cost-efficiency, by, inter alia, avoiding duplication, and promoting effectiveness in regulatory, certification and oversight processes as well as an efficient use of related resources at Union and national level;’</p> <p>This document is also published in conjunction with Art. 5(3) of Regulation (EU) No 628/2013: “The Agency shall provide competent authorities of Member States with relevant information to support the uniform implementation of the applicable requirements.”</p> | | |

Table of Contents

Table of Contents 3

A. The purpose of this document..... 4

B. Introduction into the ‘high-risk concept’ 6

C. ‘Third parties’ on the ground 8

D. Next steps 9

E. Measures to streamline cross border coordination under ARO.OPS.150(f)..... 10

 E.1. Determining high-risk SPO operations strictly on the basis of the definition of Article 2(8) of Regulation (EU) No 965/2012 10

 E.2. Publishing information about specificities in certain HR SPO 12

 E.3. Ensuring that the risk assessments and standard operating procedures have been prepared with the required quality 13

 E.4. Making the HR SPO lists published by the CA more accurate 16

 E.5. Setting a time frame for the coordination process 17

 E.6. Making the coordination a meaningful and effective process..... 18

 E.7. Requiring not less and not more than ARO.OPS.150 (f)..... 19

 E.8. Applying mutual recognition on a bilateral basis..... 21

F. ANNEX 22



A. The purpose of this document

- A.1. These Guidelines are not aimed at modifying or replacing the existing guidance for Part-SPO of Regulation (EU) No 965/2012. For example, the AMCs and GM to SPO.OP.230 already provide very helpful means of compliance and recommendations on Standard Operating Procedures ('SOPs') and Risk Assessment ('RA') to which the operators should adhere.
- A.2. The purpose of this document is to streamline cross-border coordination procedures laid down in ARO.OPS.150 (f) by recommending generally acceptable practices and processes.
- A.3. Following the roll-out of Part-SPO in 2017, many National Aviation Authorities ('NAAs') and operators reported problems in the implementation of ARO.OPS.150 (f). In particular they highlighted issues such as but not limited to:
- unnecessary administrative burden;
 - charges imposed by some NAAs solely for coordination of operator's RA and SOPs;
 - requests for documents in addition to the SOP and RA;
 - unreasonably long time for handling applications;
 - misunderstanding and non-compliance by the operators;
 - differences in NAAs expectations in respect of SOP and RA quality;
 - different interpretations of 'high-risk' across Member States ('MS')

It was therefore decided to explore ways to streamline the process of coordination under ARO.OPS.150 (f) and make it more efficient.

- A.4. ARO.OPS.150 (f) promotes cooperation between the NAAs in order to protect the public interest in the country where the intended operation will take place. This rule aims to reduce the administrative burden by eliminating multiple bureaucratic procedures whereby the operator apply for authorisation in any country in which they intend to provide specialised services. It pursues the same objectives as 'the endorsement' of helicopter operations to/from a public interest site (CAT.POL.H.225 (a)(6)).
- A.5. ARO.OPS.150 (f) is about taking into account other competent authorities' experiences rather than challenging their capabilities to apply the applicable standards. Cross-border specialised operations take place in most of the cases in neighbouring countries where the operational environment (terrain, weather) is similar or at least known to the operators.
- A.6. Member States' competent authorities are encouraged to follow these Guidelines which were developed by a special Task Force consisting of experts in specialised operations nominated by the competent authorities of Austria, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Norway, Romania, Spain, Sweden, Switzerland and United Kingdom.
- A.7. This document aims to facilitate the implementation of ARO.OPS.150 (f) and does not contain any new rules. It reveals the concept that is at the heart of ARO.OPS.150 (f) and hence does not contradict Regulation (EU) No 965/2012.

- A.8. EU Regulations are binding and directly applicable in all Member States. The specificity of EU regulations is such that the Member States cannot maintain parallel rules, procedures and standards in areas covered by those regulations, if not explicitly allowed to do so. NAAs are therefore discouraged to invoke their national law as a reason for rejecting the standardised approach recommended by this document.
- A.9. National requirements, which fall beyond the scope of Regulation (EU) No 965/2012, are not subject to current EASA efforts to facilitate cross-border coordination among the Member States. Nevertheless, such requirements should be applied on a non-discriminatory basis and relevant information should be published and made accessible to domestic and foreign operators alike.



B. Introduction into the ‘high-risk concept’

- B.1. Article 4 (2) of Regulation (EU) No 2018/1139 (the so called New Basic Regulation – NBR) establishes that the measures taken at EU level must correspond and be proportionate to the nature and risk of each particular activity to which they relate. The following must be accounted for:
- risks to fare-paying passengers in commercial air transport;
 - risks to third parties or property on the ground;
 - aircraft complexity, performance and operational characteristics;
 - purpose of the flight, the type of aircraft and type of airspace used;
 - type, scale, and complexity of the operation or activity;
 - are persons affected by the risks able to assess and exercise control over those risks;
 - results of past certification and oversight activities.
- B.2. The above-mentioned was preceded by discussions between the Commission, EASA and Member States and is a legal manifestation of the European General Aviation Safety Strategy (30.08.2012) which proposed principles and guidelines on a more proportionate and efficient regulation of General Aviation (‘GA’), including specialised operations (‘SPO’).
- B.3. The GA strategy also proposed a sort of hierarchy, in descending order of “risk averseness”:
1. Uninvolved third parties
 2. Fare-paying passengers in CAT (Commercial Air Transport)
 3. Involved third parties (e.g. air show spectators, airport ground workers)
 4. Aerial work participants / air crew involved in aviation as workers
 5. Passengers (“participants”) on non-commercial flights
 6. Private pilots on non-commercial flights
- B.4. The high-risk concept in SPO was developed with due account of the above ‘hierarchy of risks’, whereby the risk to uninvolved third parties come on top the ladder and is attributed the highest priority in terms of what society is willing to accept as a risk and to spend as protective measures.
- B.5. Risks affecting ‘aerial work participants’ or ‘air crew involved in aviation as workers’ feature lower in the hierarchy, because from a public interest perspective, for those who knowingly work or operate on or around aircraft, the acceptance of and protection against operational risk is a matter of individual and/or organisational decision.
- B.6. The definition of “‘high-risk commercial specialised operation’ in Article 2(8) of Regulation (EU) No 965/2012 builds on the ‘hierarchy of risks’ and consequently focuses on third parties on the ground:

‘A commercial specialised operator shall apply for and obtain an authorisation issued by the competent authority of the operator prior to commencing a high-risk commercial specialised operation:

(1) that is carried out over an area where the safety of third parties on the ground is likely to be endangered in the event of an emergency, or

(2) that, as determined by the competent authority of the place where the operation is conducted, due to its specific nature and the local environment in which it is conducted, poses a high-risk, in particular to third parties on the ground.'

- B.7. For the purpose of authorising high-risk commercial SPO, competent authorities of the Member States need to comply with ORO.SPO.110 (a). This point replicates the definition of “high-risk commercial specialised operation’ in Article 2(8) of Regulation (EU) No 965/2012.
- B.8. Key risk criterion under ORO.SPO.110 (a) (1) is the area i.e. parts of the earth's surface where third parties on the ground are most exposed to the risk of being damaged or injured in the case of emergency. An emergency situation may arise as a result of aircraft upset (loss of control in flight), airborne collision, terrain collision, obstacle collision, to name a few.
- B.9. Key risk criteria under ORO.SPO.110 (a)(2) are both the nature of the flight and the local environment in which the flight is conducted. Third parties on the ground may be endangered e.g. if the aircraft performance does not allow the aircraft to continue the mission as planned or if for some other reason the aircraft cannot avoid collision with the terrain or obstacles. The nature of the operation and local environment have been conceived to apply cumulatively.
- B.10. While the first option is based on assessment of the third party risks prior to an intended operation and is targeted at the operator, the second option allows the competent authority to identify one or more specialised operations which, if conducted in a given environment, are likely to put third persons/property on the ground at high-risk; the competent authority may determine such operations on the basis of e.g. accident statistics or any other relevant data.
- B.11. Most of NAAs, with very few exceptions, took advantage of the opportunity to determine in advance high-risk specialised operations in their territory. The majority of lists is however based on the nature of the operation and this is natural because the authorities cannot know in advance the local environment in which a specific operation will be conducted. Whilst this prescriptive approach has possibly made the administrative work a bit easier, the opportunity to accumulate knowledge and experience in developing safety risk assessments, being today extremely important for any operator, may be lost, especially for operational scenarios other than those pre-determined by the authority.

C. 'Third parties' on the ground

- C.1. The meaning of 'third party' needs to be clarified first in order to understand the above concept of high-risk. For that purpose it seems only natural to look into the terminology used in aviation insurance contracts.
- C.2. One of the insurance contracts in aviation is called Public liability insurance. This coverage is often referred to as third party liability. It covers aircraft owners for damage that their aircraft does to third party property, such as houses, cars, crops, airport facilities or other aircraft, and for injuries and /or death that their aircraft might cause to third party persons. It does not provide coverage for damage to the insured aircraft itself or coverage for passengers injured on the insured aircraft.
- C.3. Liability insurance is purchased by an insured (the first party) from an insurer (the second party) for protection against the claims of another (the third) party. The first party is responsible for its own damages or losses whether caused by itself or the third party.
- C.4. Regulation (EC) No 785/2004 establishes minimum insurance requirements for air carriers and aircraft operators in respect of passengers, baggage, cargo and third parties. According to Article 3 (d) of that Regulation, 'flight' means:
- 'with regard to third parties, the use of an aircraft from the moment when power is applied to its engines for the purpose of taxiing or actual take-off until the moment when it is on the surface and its engines have come to a complete stop; additionally, it shall mean the moving of an aircraft by towing and push-back vehicles or by powers which are typical for the drive and the lift of aircraft, particularly air streams;'*
- C.5. The Regulation also stipulates that, regarding third parties, the insurance should include cover for death, personal injury and damage to property caused by accidents. Paragraph (h) of the same Article contains a definition of third party. It means:
- 'any legal or natural person, excluding passengers and on-duty members of both the flight crew and the cabin crew'.*
- C.6. Therefore, in SPO operations third party risk is defined as the risk posed by aircraft accidents to the health and safety of persons on the ground, excluding task specialists, as well as to third party property on the ground.

D. Next steps

- D.1. These Guidelines may need to be adapted as a consequence of future updates in the implementing rules and of their AMC/GM, relevant to SPO.
- D.2. On the other hand, potential future updates of the implementing rules/AMC/GM can be designed with due consideration to these Guidelines.



E. Measures to streamline cross border coordination under ARO.OPS.150(f)

E.1. Determining high-risk SPO operations strictly on the basis of the definition of Article 2(8) of Regulation (EU) No 965/2012

Recommended practices

- E.1.1. As explained in part B above, the definition of high-risk SPO operations contains two options: the first targeted at operators and the second targeted at authorities. Both options refer to the risks to third parties on the ground i.e. the risks posed to the health and safety of persons on the ground, excluding task specialists, as well as to third party property on the ground.
- E.1.2. Both options point to ‘third parties on the ground’. No discrepancy exists between the two options in relation to the ‘third parties’, even if the expression ‘in particular to third parties on the ground’, used in the second option, could create the impression that it is somewhat larger in scope. The practical meaning of ‘in particular’ in this context can be explained as follows: even if there exist other risks, determination of a SPO as high-risk is only warranted when ‘in particular’ there are third party risks. There is no reason why the operators have to confine themselves to the risk to third parties on the ground (first option), while the authorities should take all risks into account.
- E.1.3. In order to determine high-risk SPO operations in the context of the environment in which they are conducted, the competent authority should assess the risks to third parties on the ground taking into account the frequency and severity of an undesired event. For that purpose it may, wherever possible, take into account historical mishap rates i.e. statistical data of the number of mishaps to third parties on the ground over a particular period of time and flight hours. This is illustrated through one of the third party risk modelling tools described in the Annex.
- E.1.4. Thus, considering cumulatively the nature of the operation and local environment in which it is conducted may have as a result that e.g. HESLO or HEC operations have less risk potential when conducted in non-densely populated areas.
- E.1.5. The safety of helicopter operations in a wider context than solely third party safety has been a constant preoccupation of the aviation authorities across the board. However, the European regulator has decided to consider as ‘high-risk’ in particular the risks to third parties on the ground. Therefore, for the purpose of HR SPO definition, the major risks requiring mitigation at regulatory level are those affecting third parties on the ground. Such risks include uninvolved third parties as well as involved third parties (air show spectators). Other risks in SPO such as the risks to aircrew or task specialists or to third parties in the air (for example in the case of mid-air collision with another aircraft) do not determine an operation as high-risk, but should anyway be addressed by the operators.
- E.1.6. Operations in extreme weather (snow/ice/wind) conditions and difficult terrain do not always affect third parties on the ground, especially when conducted in remote, sparsely populated areas, therefore, those do not qualify as HR SPO according to the ‘high-risk

concept' explained above. The risk to pilots or task specialists in such operations should normally be identified and mitigated at operator's level e.g. through enhanced pilot training, but from the point of view of society, such risk does not justify public authorities' efforts.

- E.1.7. Potential risks stemming from flying with dangerous goods ('DG') on board should be captured by the operator when undergoing a procedure for a DG approval under Part SPA. This means that the carriage of DG should not automatically be qualified as high-risk SPO by the competent authority. However, the risks of certain DG to the environment, within the area of operation, may have not been assessed under Part SPA. The resulting risk is likely to be elevated and therefore need to be addressed additionally.
- E.1.8. MS competent authorities ('CA') are encouraged to review their lists of high-risk ('HR') SPO activities in the light of clarifications on third party risks provided in these Guidelines. Instead of only listing the generic type SPO (e.g. human external cargo, movie flights, animal herding etc.), the CAs may place them in a given context by specifying the operational conditions (e.g. movie flight carried over open air assembly of people or uneven terrain or performed by helicopter) in which a particular SPO turns into a high-risk mission. The lists of HR SPO activities may be transformed in HR SPO scenarios. Thus, it is highly likely that the volume of work required for cross-border coordination decreases.

Undesirable practices

- E.1.9. The second option in the definition of HR SPO should not be interpreted as allowing CAs to take away from operators the proactive assessment of potential risks. This means that the CAs' determination should not outweigh the operators' initiative and, importantly, should not be used as a protectionist measure against foreign operators.
- E.1.10. Within its scope Regulation (EU) No 965/2012 sets common requirements for SPO operations in the EU. It is exhaustive as far as the applicable requirements for such operations in any Member State are concerned. EU Regulations apply as such in all MS and prevail over MS national law in the case of discrepancies. When assessing the risk to third parties on the ground by themselves or when reviewing operators' risk assessments, the competent authorities should therefore be careful not to ask for additional requirements that stem from national regulations.
- E.1.11. The criteria defined in AMC1 SPO.GEN.005 should not be used for identifying a SPO operation as high-risk. Their purpose is to determine whether an activity is a specialised operation or not.

E.2. Publishing information about specificities in certain HR SPO

Recommended practices

- E.2.1. The competent authority should publish any information it has about the specific hazards to high-risk SPO in their territory. This will raise the awareness of domestic and foreign operators alike on local features (terrain, elevations, winds etc.) that require specific mitigation and will facilitate the assessment of risks pertaining to those hazards. Thus, the SPO operators would be able to focus their Risk Assessment (RA) and Standard Operating Procedures (SOPs) on circumstances they have most likely not anticipated and for which the competent authority of the place of operation may have unique knowledge and experience.

Undesirable practices

- E.2.2. Publication of information or guidance material about specificities in certain high-risk SPO should not be perceived as a transfer of responsibility from the operator to the competent authorities for the preparation of RA and SOP.
- E.2.3. Information about specificities in certain HR SPO should not be understood as additional criteria beyond those already contained in the Regulation.

E. 3. Ensuring that the risk assessments and standard operating procedures have been prepared with the required quality

Recommended practices

- E.3.1. A clear understanding of the specific risks is essential to the implementation of sound mitigation measures at particular operator.
- E.3.2. It is the operator's responsibility to assess the risks of an intended cross-border operation and develop relevant SOPs, regardless of whether the operation is on the list of HR SPO established by the country of operation and whether a coordination under ARO.OPS.150 (f) is needed. The process is depicted in Figure 1.

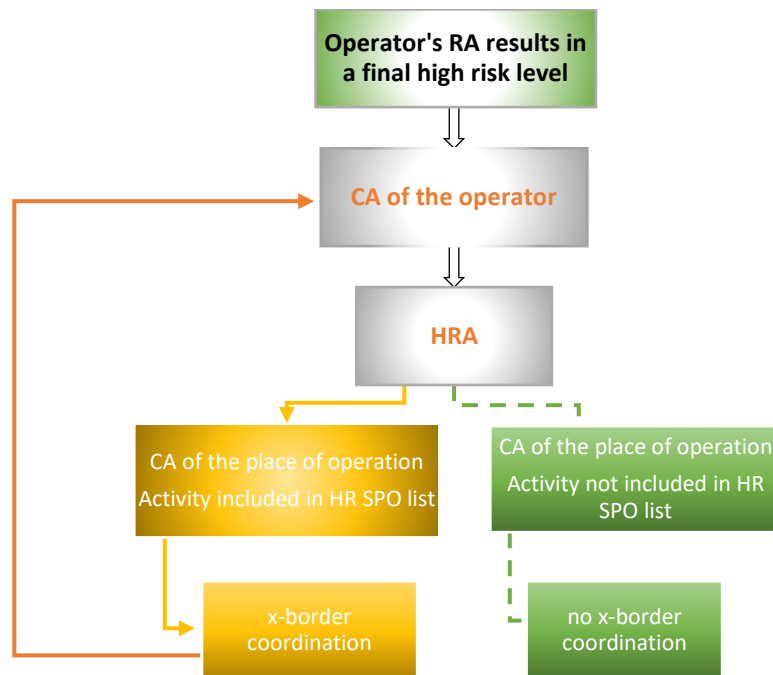


Figure 1

- E.3.3. A good basis for developing RA and SOPs are AMC2 SPO.OP.230 and the template forms of GM1 SPO.OP.230.
- E.3.4. The operator should perform a comprehensive RA where various types of risks are assessed and mitigated, including third party risks to persons and property on the ground. If after due account of all available and new barriers, the residual risk to persons and property on the ground still remains high, the operation would typically require a constant monitoring. This is illustrated by Figure 2:

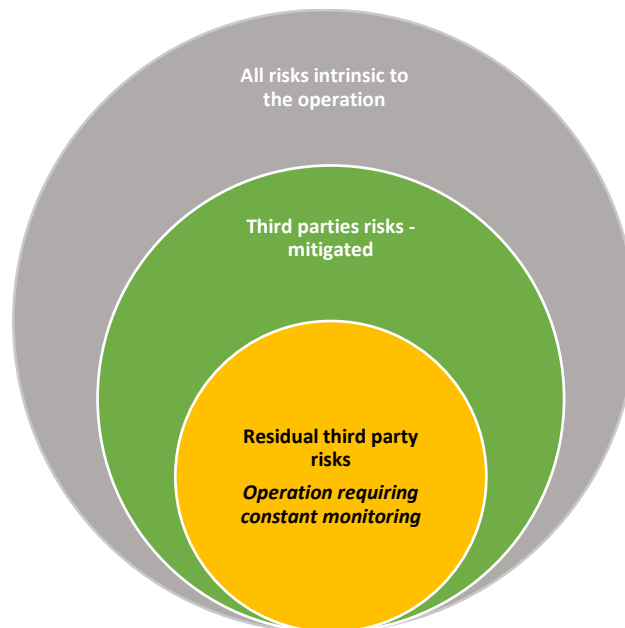


Figure 2

- E.3.5. Where an operation is considered high-risk in the place of operation, it is the operator's responsibility to apply for a HR authorisation to its competent authority, regardless of whether such operation is considered high-risk by that authority. The operator should develop a RA and SOPs for the intended operation using the informative and/or guidance material published by the CA of the place of operation, if available.
- E.3.6. The CA of the operator should check if the operator has made all necessary adaptations to its OM/SOPs in view of the nature and the environment in which the operation will be conducted, and the specific risk exposure. For the purpose of evaluation of operational safety risk assessment, the CA of the operator should use the material developed under AMC2 ARO.GEN.300(a);(b);(c).
- E.3.7. The CA of the operator should check if the operator, when applying for authorisation for cross-border high-risk commercial SPO operation, has developed their RA or SOP in accordance with AMC2 SPO.OP.230, and if it has provided all relevant texts of the OM or other documents, should the SOPs for the particular operation contain cross references to such texts or documents.
- E.3.8. The CA of the operator should check if the operator has developed the SOPs for a particular operation by considering the mitigations established as a result of the assessment of the risks inherent to that operation. To facilitate a verification of compliance with this requirement, the operator should provide a reference in the RA to the paragraph in the SOP where the mitigation is reflected. In other words, there should be a clear link between the barrier in the RA and the particular procedure in the SOP as shown in GM1 SPO.OP.230.

Undesirable practices

- E.3.9. The CA of the operator should not submit to cross-border coordination a generic RA where the hazards, related risks and barriers do not address the intended operation or generic SOPs where the operating procedures do not reflect the mitigation planned in the RA.



E.4. Making the HR SPO lists published by the CA more accurate

Recommended practice

- E.4.1. Where the CA has decided to define HR SPO and has published SPO lists, those lists should be using the terminology of GM1 SPO.GEN.005. A standard approach and terminology would help streamline the cross-border coordination of HR SPO.
- E.4.2. The list of GM1 SPO.GEN.005 (a) is neither exhaustive nor invariable.
- E.4.3. New activities meeting the criteria of AMC1 SPO.GEN.005 can be incorporated at any time subject to proper coordination at EU level before their inclusion under GM1 SPO.GEN.005 (a) as was the case with ‘sensational flights’ proposed by France. For that purpose, the MS concerned should provide information and data to enable EASA and the other MS to better understand the features of the new operation, how it distinguishes itself from the already-known operations and how recognisable it is across MS.
- E.4.4. SPO terms included in GM1 SPO.GEN.005 (a) should be used as generic terms as far as possible i.e. NAAs may refer to an available SPO term when authorising close variations. For example, dropping of divers may be associated to HEC and crops heating by air swirling with helicopter may be associated to agricultural flights.

Undesirable practice

- E.4.5. CAT operations must not be included in Member States’ HR SPO lists. A close compliance with AMC1 SPO.GEN.005 will avoid confusion and the waste of time for seeking clarifications.
- E.4.6. The competent authority of a MS should not modify, in their territory, the existing SPO types as this can make it harder for operators from other MS to establish the relevant requirements in the case of cross-border HR SPO and may be perceived as a protectionist measure. For example, today avalanche mining operations have been included in MS HR SPO lists under a variety of names. Instead, a common name should be used although the systems used in avalanche mining differ (see also E.1.8). The operators should take into account these differences and not use identical RA and SOPs.

E.5. Setting a time frame for the coordination process

Recommended practice

- E.5.1. The target time for coordination process should not exceed one month. This period of time should also be sufficient to eliminate inconsistencies in the operator's documentation, if any.
- E.5.2. The CA of the operator should inform the CA of the place of operation that they have verified the operator's application and found it acceptable for the purpose of issuing HRA, subject to any specific considerations that the CA of the place of operation might have with regard to the RA and SOPs.
- E.5.3. The CA of the place of operation should acknowledge receipt of the documentation being coordinated and indicate when an earliest feedback can be expected.
- E.5.4. If no major inconsistencies have been identified by the CA of the place of operation, the latter should confirm its satisfaction with the submitted RA and SOPs within three weeks.
- E.5.5. A shorter period may be agreed bilaterally by the CAs involved in the case of urgency.

E. 6. Making the coordination a meaningful and effective process

Recommended practice

- E.6.1. The CA of the country of operation should inform in writing of its non-objection along with specific conditions and limitations, if any, to the CA of the operator.
- E.6.2. The CA of the operator should include those conditions and limitations, if any, in the HRA.
- E.6.3. When, following a successful coordination procedure, a HRA has been issued, the CA of the operator should inform the CA where the operation will be carried out by sending a copy of the authorisation to it. The CA of the place of operation, thus informed, should confirm by email that it is satisfied with content of the HRA.
- E.6.4. The CA of the operator should inform the operator that it must carry on board the authorisation granted according to SPO.GEN.140 and that it may be subject to ramp inspections in the territory of the other State.

Undesirable practice

- E.6.5. In the course of a coordination procedure under ARO.OPS.150 (f), the CA of the place of operation should not communicate with the operator directly and the CA of the place of operation should not issue a HRA directly to an operator established or residing in another Member State.
- E.6.6. Neither the CA of the operator nor the operator should be required to translate the documents in the local language, if those documents have been submitted in the English language.
- E.6.7. In the same way as no fees are levied for endorsements from the CA where the operation will take place in accordance with CAT.POL.H.225 (a)(6) and CAT.POL.H.420 (a), and therefore no fees should be levied by the CA of the state of operation for coordination of the RAs and SOPs in accordance with ARO.OPS.150 (f). This is because the CA of the place of operation does not perform certification, approval, authorisation or similar tasks; it only performs a preventative cooperative oversight.
- E.6.8. If a HRA is issued without a positive written statement of the CA of the place of operation that it has been satisfied with the operator's risk assessment and SOP, it may stop the operation by e.g. grounding the aircraft, considering the severity of the situation. CA of the place of operation may also impose fines and/or take other legal measures as prescribed in their territory. In the first place however, it should try to solve the problem by asking the CA of the operator to clarify the situation. Let's not forget that this may not be the fault of the operator and possible strict punitive measures might be disproportionate.

E.7. Requiring not less and not more than ARO.OPS.150 (f)

Recommended practice

- E.7.1. Unless the SOPs and RA contain references to documents that have not been submitted to the CA of the place of operation, but are critical to the operation, that CA should not ask for other documents. For example, the SOPs may be part of the OM or a separate document. In both cases they would contain references to (other parts of) the OM as the case may be. As the OM is a document critical to the operation, the CA of the place of operation must have access to it.
- E.7.2. Article 8 (4) of Regulation 965/2012 states that with regard to SPO ‘applicable national flight time limitation legislation’ apply. This is to distinguish from CAT scheduled and charter operations that are subject to a harmonised EU FTL regime. This Article does not regulate cross-border SPO operations. Obviously, the qualifier ‘national’ belongs to the State of the Operator in line with the traditional approach to air operations.
- E.7.3. The State of the Operator principle as enshrined in the current version of Article 8 (4), is also retained in the version applicable from 8 April 2019 where ‘national’ is clarified as the ‘national law of the Member State in which the operator has its principal place of business, or, where the operator has no principal place of business, the place where the operator is established or resides.’
- E.7.4. When it comes to coordination of high-risk cross-border SPO, CAs should refrain from judging the quality of FTL regimes applicable to SPO operators in other Member States before they have requested and received relevant information from a reliable source. For example, the CA of the place of operation may ask the CA of the operator or EASA to provide information about the FTL regime there in force. Another reliable source of information is the EASA Survey on FTL for CAT (H), HEMS, commercial SPO (H) and commercial SPO (A). The aggregated results of that Survey have already been distributed to the CAs.
- E.7.5. If, during the coordination process, the CA of the place of operation has reasonable grounds to believe that the safe SPO operations in its territory might be jeopardised by the operator’s non-compliance with flight time limitations and rest requirements of the State of the operator or by the lack of such FTL requirements, it may raise objections and ultimately refuse to endorse the HR authorisation of that operator, if not satisfied with the solution proposed by the operator and/or its CA.
- E.7.6. Where in the place of operation special conditions other than FTL exist, such as business hours, official holidays, bans to work during night etc. these should apply to any operator, foreign or domestic, without discrimination on the basis of nationality.
- E.7.7. Where in the place of operation special training requirements exist for the use of DG other than DG training in accordance with Regulation (EU) No 965/2012, these should apply to any operator, foreign or domestic, without discrimination on the basis of nationality.

Undesirable practice

- E.7.8. Nothing of the above should be understood to allow the CA of the place of operation to impose compliance with its own national FTL requirements to a foreign operator. Regulation (EU) No 965/2012 does not ask for compliance with the FTL rules of the place of operation for SPO missions.



E.8. Applying mutual recognition on a bilateral basis

Recommended practice

- E.8.1. The application of a mutual recognition on a bilateral basis is expected to fulfil the requirements of prior coordination and satisfaction stated in ARO.OPS.150 (f).
- E.8.2. Whenever a CA is satisfied with the process of issuance of high-risk SPO authorisations in another State, the former may elect to automatically recognise such authorisation issued by that State without any further assessment. In this regard MS are encouraged to use data collected by the Agency in the context of its standardisation activities.

Undesirable practice

- E.8.3. The application of a mutual recognition should not compromise the cooperation principle and discriminate against other States.

F. ANNEX

This modelling tool proposes to define the risk to third party persons on the ground in the following manner:

$$\text{LoS} = \text{PLOA} \times \text{PoCA} \quad (1)$$

where,

- LoS = Level of Safety (Fatalities per flight hours)
- PLOA = Probability of Loss of Aircraft (loss per flight hours)
- PoCA = Probability of Casualty (injuries/fatalities per mishap)

LoS and PLOA are typically given as number of losses per flight-hours. Typically for General Aviation the value used is 10^{-7} flight hours.

The easiest and most accurate method for determining the PLOA of an aircraft is to use historical data. This is accomplished by simply accounting for the number of mishaps an aircraft has over a given period of time.

The mishap rate is then divided by the number of flight-hours over the same period of time.

PoCA is a complex functions that take many variables into account.

$$\text{PoCA} = \text{LCA} \times \text{Population density} \quad (2)$$

where,

- PoCA = Probability of Casualty (injuries/fatalities per mishap)
- LCA = Lethal Crash Area of Aircraft (m^2)
- Population density = the average population density within the PCA (people per m^2)

The LCA component in the equation above represents the area of a crash site that one would expect to experience casualties. The LCA is a function of aircraft type, size, weight, fuel load, and expected shelter available for people within the crash area. The LCA calculation therefore reflects impacts for four primary modes of aircraft accidents: fixed wing vertical impact, fixed wing glide impact, rotary wing vertical impact, and rotary wing glide or autorotation impact.

The PCA of an aircraft is the potential area that the aircraft can land following a catastrophic failure. PCA can be calculated for either a fixed wing or a rotary wing aircraft.