ADVISORY CIRCULAR

AC	**:**	**AIR-145-003**
DATE	**:**	**17-06-2020**
REVIEW	**:**	**Original**
ISSUED BY	**:**	**SRVSOP**

SUBJECT: RISK MANAGEMENT APPLICABLE TO THE VALIDITY EXTENSION, OR CONTINUOUS VALIDATION, OF THE APPROVED LAR 145 APPROVED MAINTENANCE ORGANIZATION (AMO) CERTIFICATE DUE TO CHANGES CAUSED BY COVID-19

1. PURPOSE

This Advisory Circular (AC) provides information and guidance on risk management applicable to the validity extension, or continuous, validation of the approved LAR 145 approved maintenance organization (AMO) certificate, due to changes originated by COVID-19.

2. SCOPE

This AC is directed to AMOs requesting temporary exemptions or deviations from the validity or ongoing validation of their certificates. An AMO may request a validity extension of its certificate when it has an expiration date, or an extension of the continuous validation of its certificate, when it has no expiration date, and has not received an inspection/audit from the CAA that granted the certificate within a maximum period of 24 months.

3. APPLICABILITY

3.1. This guidance material is not mandatory or regulatory in nature. It describes acceptable methods, but not the only methods that an AMO can adopt to overcome changes caused by COVID-19, in relation to the validity extension or continuous validation of the AMO certificate.

3.2. The temporary exemptions described in this AC shall not be used by those AMOs that have been suspended, or partially suspended, in the last two (2) years (between 1 June 2018 and 1 June 2020).

4. ANNEXES AND REGULATIONS RELATING TO THE AC

a) Annex 8, Part II, paras. 6.2.1, 6.2.2, 6.2.3, and 6.2.4

b) LAR 145 – Approved Maintenance Organizations, Chapter B, Section 145.115.

5. RELATED DOCUMENTS

a) ICAO Council's Aviation Recovery Task Force (CART) Report, Safety Measures, Recommendations 1, 2 and 3; and

b) SAM Region strategic framework, Activity 10 – Safety risk map.

6. INTRODUCTION

6.1. Due to restrictions on physical distancing, workplace closing and other preventive measures imposed by States to prevent or reduce the spread of Coronavirus, the International Civil Aviation Organization (ICAO), with a view to facilitating operations under appropriate safety conditions during the COVID-19 pandemic, encouraged States, through Letter AN 11/55-20/50 of 3 April 2020,to be flexible with their positions, while observing their obligations under the Convention on International Civil Aviation (Doc 7300, Chicago Convention).

6.2. Following ICAO guidelines, States have taken various measures for service providers and aeronautical personnel to keep valid their certificates, licences and other approvals during the COVID-19 pandemic. These measures, that may include temporary extensions to the requirements of national regulations, also known as extensions, waivers or alleviations, and which are necessary to maintain aviation operations during the COVID-19 pandemic, constitute temporary exemptions or exceptions and must, therefore, be notified as differences under Article 38 of the Chicago Convention. Refer to ICAO Doc 10050, paragraph 1.2.5, on temporary or short-term differences.

6.3. In this sense, the framework of the Safety Management System (SMS), Element 3.2 – Management change of Component 3 – Safety assurance, explains the factors that change the experience of service providers, such as changes to the organization's operational environment, as well as external regulatory changes, economical changes, and emerging risks. A more detailed analysis of this element follows hereunder.

7. MANAGEMENT OF CHANGE

7.1. Restrictions caused by COVID-19 have led to dynamic changes in the provision of services, air operations and civil aviation systems in States.

7.2. In this context, the AMOs shall identify the element or elements that trigger the formal process of change. Following are some elements that can activate the afore-referred process:

a) introduction of new technologies or equipment;

b) changes in the operational environment;

c) changes in key personnel;

d) significant changes in staffing levels;

e) changes in safety regulatory requirements;

f) significant restructuring of the organization; and

g) physical changes (new facilities) or changes in the overall layout of the organization.

7.3. Based on these triggers, the AMOs shall identify the new hazards and risks introduced into their organizations by COVID-19. Moreover, they will also coordinate with the air service operators to whom they provide their maintenance services, the sharing of data and safety information, with respect to faults, defects and malfunctions that have been identified and which are related to the maintenance services carried out by the AMOs. The sharing of this data and safety information will enable AMOs to identify new hazards and risks, and establish appropriate mitigation actions to reduce risks in the provision of their maintenance services to a tolerable level, for the duration of the exemption or the deviation from the certificate with an extended expiry date, or when it has not undergone an inspection/audit within a maximum period of 24 months by the CAA that granted the certificate.

7.4. AMOs shall also consider the consequences of the change on their staff. This could affect how impacted individuals accept change. Early communication and participation will typically improve the way changes are perceived and implemented.

7.5. In order for AMOs to be able to provide their services without restrictions during the COVID-19 pandemic, they need to obtain from the CAA that granted the certificate, the corresponding authorization to operate certificates with an extended expiration date, or without an inspection/audit for a maximum period of 24 months in case of AMOs with certificates without an expiry date.

7.6. The above item is a regulatory requirement that is covered by procedures developed in the Maintenance Organization Manual (MOM) (approved by the accountable manager and accepted by the CAA who granted the certification). Therefore, for AMOs to be able to operate with an extended certificate, they must submit to the CAA an application for exemption, or deviation, for the duration of the COVID-19 pandemic. AMOs with indefinite certificates must also request the extension of the inspection/audit scheduled by the CAA every 24 months.

8. ACCEPTANCE PROCESS FOR EXEMPTIONS OR DEVIATIONS

8.1. Initial analysis of safety risks from changes caused by COVID-19

a) The processes for the systematic identification of hazards that exist in the AMOs will enable them to make an appropriate initial risk analysis (hazard identification, risk assessment and mitigation of such risks) with respect to changes caused by COVID-19.

b) Given the dynamic change caused by the pandemic in maintenance services and air operations, AMOs will continuously update or amend their risk management processes, with particular emphasis when it is foreseen to move from pandemic-restricted operations to unrestricted normal operations due to the drastic change to the civil aviation system.

c) It is important to understand the size and complexity of the AMOs operation in each of the pandemic phases in order to achieve a high safety performance. Moreover, it is also important that AMOs establish the description of their systems, interfaces and interactions so that staff know and implement their inherent safety management roles and responsibilities. The following describes the phases that have been identified and that are related to the risk management and extensions during and after the pandemic:

1) **during the pandemic situation**: A period that includes operations carried out while the exemptions to the requirements are in force and whose renewals will be subject to how COVID-19 evolves, the physical restrictions in force, whether total or moderate, and the health protocols for the control of disease transmission. This stage is directly governed by the evolution of the pandemic and the development of measures to combat its spread.

2) **prior to the start of normal operations**: A period in which it is agreed that physical and health restrictions will be removed and give way to normal operations.

3) **during the first months of normal operations**: Period where all exemptions will be eliminated and the validity or effect of certificates, licenses, authorizations, qualifications and other approvals that have been extended, will be re-established. During normal operations, AMOs will operate without physical or sanitary restrictions.

8.2. Filing the application for the validity extension or continuous validation of the certificate

a) Once the AMOs identify the hazards and their possible consequences, the AMOs will develop the safety risk and extension management matrix, where they will establish the possible mitigations and operational conditions to be implemented during the pandemic, prior to the start of normal operations, and during the first months of normal operations.

b) The AMOs will then submit the application for the validity extension, or continuous validity, of the certificate to the local CAA that granted the certification, in the form and manner established in the national regulations. Appendix C describes the documentation for requesting an exemption from the expiration date, or ongoing validation, of the AMO certificate from the CAA.

c) As annexes to the application, the AMOs shall submit the relevant safety risk analyses with respect to the new hazards identified by the changes caused by COVID-19, and the respective amendments to the Maintenance Organization's Manual (MOM) and the training programme. In the event that the AMOs require amendments to their capability lists, they shall also submit these amendments for approval.

d) The mitigations set out in the safety risk analyses presented, and the determined operational considerations, shall be the boundaries that support the operations of AMOs with certificates that have been extended, or of organizations that have not undergone an inspection/audit within a maximum period of 24 months by the CAA that granted the certificate.

e) Only when the CAA has authorized the exemption or deviation, the AMO may operate in accordance with the authorization granted.

f) If the AMOs have approvals from other States, they shall also request the corresponding exemptions or deviations from the CAA of those States, in compliance with the requirements under which those States granted the certification. Only in this way will they be able to perform maintenance on aircraft from those registration States.

g) In the case of multinational certifications, the AMOs, once they obtain approval of the exemption or deviation, will send a document to the SRVSOP General Coordinator, with a copy of the approval granted by their local CAA. The SRVSOP Technical Committee will then inform the States that granted the multinational certification of the exemption, so that it is evaluated by those States and proceed to the recognition of the exemption or temporary diversion. Upon receipt of the communication from States by the Technical Committee, it will be published at the SRVSOP website, and the AMO will be informed of what the States have determined.

8.3. Acceptance of the application for validity extension or continuous validation of the certificate

a) At the time of filing the extension application, the AMOs, in addition to the safety risk analyses, will also submit as annexes to the application, the MOM review and the training programme with the changes incorporated. Amendments to the MOM and the training programme shall be related to the procedures and training curricula that will support the validity, or continuous validation, of the certificate. If necessary, the AMOs shall also submit as an annex to the application the amendments to their lists of capabilities for the respective approval by the CAA which granted the certificate.

b) If the AMOs have approvals from other States, they shall send a copy of the amendments to the MOM and the training programme accepted by the local CAA to the CAAs of those States, in order to obtain acceptance of the amendments from them.

c) In the case of multinational certifications, and in accordance with the provisions of LAR 145 – AMO Multinational Certification Agreement, the copy of the amendments to the MOM, the training programme and, if applicable, the lists of capabilities accepted by the local CAA responsible for the oversight, shall be sent to the General Coordinator, who shall arrange for the Technical Committee to carry out the administrative management and to inform the States that granted the certification.

> ***Note:*** *If the revised or amended procedures, training curricula or capabilities affect the requirements declared by a signatory State of the LAR 145 AMO Agreement, they shall be accepted and/or approved by that State before being implemented by the requesting AMO.*

8.4. Training to maintenance personnel on amendments to the MOM, in accordance with the amended training programme

Once the extension to the validity of the certificate, the acceptance to the amendments to the MOM, and the training programme are granted by the local CAA, the training department or section of the AMOs must proceed to train the staff of the organization in the revised and developed procedures, in order to ensure its implementation. It is important that the staff receive instruction in order to adjust to the newly assigned tasks and responsibilities.

8.5. Training records

The person responsible for the AMOs staff training must keep detailed records to demonstrate that staff received appropriate training regarding the revisions in the MOM.

9. VALIDITY EXTENSION OR CONTINUOUS VALIDATION OF THE LAR 145 AIRCRAFT MAINTENANCE ORGANIZATION (AMO) CERTIFICATE

9.1. The CAA may extend the expiration date of the AMO certificates or the continued validity of these certificates when they do not have an expiration date as a result of the changes caused by COVID-19, provided that the AMOs request the following revisions or amendments and comply with the conditions established by the CAA, once the revisions or amendments have been accepted:

a) Review of the MOM in order to include procedures to ensure the planning, control and maintenance performance they offer, due to changes caused by COVID-19. For example, they will develop procedures on actions that will be followed with tools whose calibration dates were extended during the period of extension of the certificate's validity, or the execution of any procedure to be followed by AMOs staff, whose regular licenses or trainings were extended in the same extension period, among other topics;

b) Review of the training programme to include remote instruction, if applicable;

c) Review of the audit plan in order to update it and establish in its procedures the audits by virtual means, where it will be established how they will be carried out and how the evidenced findings will be followed-up;

d) Conduct a self-assessment to determine critical points affecting safety. If it is determined that there is no way to mitigate the risk, AMOs should self-suspend capabilities and inform the CAA. Self-suspension may only be lifted when the AMOs have regained their capacity to carry out the work, and safety is not compromised;

e) Have a safety management system (SMS) implemented, or continue with its implementation; and

f) Develop safety performance indicators (SPI), establishing event trends in the operators to which they provide maintenance services.

10. MANAGING EXTENSIONS

10.1. Implementation of mitigations

Once the CAA has authorized exemptions, deviations or extensions to be more flexible, the AMOs will implement mitigations that may have been established as a result of the risk analysis.

10.2. Operational considerations during the pandemic

Operational considerations during the pandemic will allow AMOs to verify whether mitigation measures were appropriate and to identify possible new hazards. In addition, the application of barriers and the measurement of safety performance will ensure the effectiveness of the risk controls being carried out during the pandemic.

All results obtained should be **documented** as part of the safety risk management (hazards, consequences, risk assessment and all measures taken to control such risks).

All the documentation provided will become a basic source of knowledge on safety-related matters, and may be used as a reference in decision-making, as well as share it with other organizations.

Another important aspect is that all the information will provide material for trend analysis and allow AMOs to make data-driven decision-making.

In order to determine whether AMOs are able to cover all the duties set out in their capability lists, they shall conduct a risk analysis, and if they determine that any rating on the capability lists may create a risk which cannot be mitigated, they shall suspend that capability and inform the CAA. If AMOs self-suspend, they do not need to amend the capability lists.

It should be noted that critical processes performed by AMOs during this period may change according to how the pandemic evolves (re-occurrence).

10.3. Considerations before returning to normal operations

Once the CAA sets the date on which return to normal activities will be possible, AMOs will develop a **recovery plan** in which they will establish all the activities that are necessary to restore the temporary extensions granted and return to normal operations in an orderly and safe manner. This plan will be submitted to the CAA for acceptance and oversight.

Among the main activities, AMOs will immediately initiate the review of the MOM to determine which procedures could be withdrawn, or which procedures may be improved. Once this work has been carried out, they will have to address, together with the principal maintenance inspector (PMI) and through virtual meetings, the topics that will be modified in the Manual, in order to be able to coordinate in an appropriate manner the acceptance of the MOM by the local CAA. In the same way, they will amend their training programmes to suit the MOM and the services that the AMOs will offer during normal operations.

If the AMOs have certifications granted by other CAAs of other States, and those authorities have granted exemptions or deviations, they must send a copy of the MOM with the changes to the procedures that were affected and which must return to normal. In the same sense, they will proceed with the amended training programmes.

For multinational certifications, once the MOM is accepted by the local CAA, the AMOs will send a copy to the SRVSOP and request the SRVSOP General Coordinator to carry out coordinations, in accordance with the provisions in LAR 145 – AMOs.

Once the MOM is accepted, AMOs must immediately train all their staff to ensure they know and understand the changes.

Other aspects to consider are the reactivation of the face-to-face audit plan, so it will be important to update the external and internal suppliers audit programme, as well as the regularization with the service providers, in order to send to inspection or calibration all equipment or tools that may have received an extension from the CAA.

The **recovery plan** will develop sequential task planning, showing the expected time of dedication for the different tasks or activities over a given total time, detailing the different exemptions and activities to return to normal operations according to the related requirements. To this end, it is recommended that a Gantt chart be included as an annex to the recovery plan. An example of a Gantt chart is presented in **Appendix D.**

To ensure that the **recovery plan** contemplates all activities necessary to enable AMOs to return to normal operations without difficulty, AMOs will conduct a self-assessment, to determine its current situation, especially in those processes that have been affected by the extensions due to changes caused by COVID-19.

10.4. Considerations at the start of normal operations

At the start of normal operations, AMOs will implement the **recovery plan** to restore granted extensions in a safe and orderly manner. The plan will be implemented in accordance with the established schedule that was accepted by the CAA.

AMOs should not maintain temporary extensions related to COVID-19, once normal operations are restored. In the event that temporary extensions are maintained after the pandemic, the CAA will report the corresponding differences through the regular electronic filing of differences (EFOD) system.

Once all extensions have been re-established, AMOs will reassess the processes that are performed, to determine whether the certification standard is maintained.

11. RECOVERY PLAN

11.1. Content

The recovery plan will be a document submitted by the AMOs, signed by the accountable manager, establishing how the organizations will return to normal. This document should be aligned with the recovery of processes that are necessary for the normal operation of AMOs, therefore, it includes all operational aspects to reset these processes.

There are different ways to address the development of a recovery plan, but it should always be aligned with the AMO continuity plan in normal operations, so defining the purpose of the organizations should be considered.

The recovery plan should describe its objective, scope, extension requirements, recovery activities, responsible persons, safety risk management, considering the evolutionary shift towards normal operations, control and monitoring processes, and the estimated duration.

In addition, the recovery plan will include criteria for determining when a safety issue cannot be resolved using normal procedures that decreases the organizations' ability to carry out essential processes.

11.2. Format

The AMO is expected to develop a recovery plan that incorporates, at least, the following parts:

a) Introduction;

b) Objective;

c) Scope;

d) Description of the requirements that were extended;

e) Description of recovery activities with start and end date;

f) Responsible persons;

g) Required resources;

h) Safety risks Management;

i) Control and monitoring;

j) AMO capabilities under non-normal procedural conditions; and

k) Gantt chart (Annex).

Note: Items (e) and (f) must be developed in an implementation plan (Gantt chart) with estimated dates and signed by the responsible manager. Each time a date is not met, the plan must be reviewed and updated and signed by the manager responsible for acceptance by the PMI.

12. RETURN TO NORMAL

12.1. Once maintenance activities become stabilized after the COVID-19 pandemic, the quality system will evaluate the safety risk associated with the use of the extensions granted, with particular attention to the risks associated with those cases in which maintenance personnel may not have worked in the maintenance environment for a long time, and any other possible involvement in the aspects of human factors induced by the crisis of the COVID-19 that compromise AMO certification.

12.2. Temporary extensions are expected to be in force until 31 March 2021, or until the normal operation of the AMOs resume, whichever comes first.

13. MATRICES AND TABLES EXAMPLES FOR SAFETY RISK MANAGEMENTAND EXTENSIONS GRANTED

13.1. Examples such as matrices for safety risk management and granted extensions are presented in **Appendix A**, so that AMOs can count with a reference in the development of their own risk analyses and in the establishment of operational considerations that should be observed at each identified stage. Risk analyses will be used to be submitted to the CAA together with the extension application, in accordance with the CAA's regulatory requirements.

13.2. Examples of probability and severity tables and safety risk assessment matrices are presented in **Appendix B**, in accordance with the examples in the tables and matrices of Doc 9859 – Safety Management Manual, Fourth Edition. However, the CAA will guide its service providers in the use of the methodology that the State has adopted for a safety risk assessment.

13.3. **Appendix C** describes the documentation to request an exemption from the CAA at the expiration date or an ongoing validation of the AMO certificate

13.4. **Appendix D** provides an example of a Gantt letter from the recovery plan.

Appendix A
Risk management example matrix for extensions granted to AMOs due to changes by COVID-19

General considerations:

1. The AMO shall evaluate the interfaces and interactions with the different service providers with whom it interacts (air service operators, aerodromes, large scale service providers, among others) in order to identify hazards and carry out the relevant safety risk analyses to implement the necessary mitigation measures.

2. The probability will depend on the number of related events recorded by the AMO, or the operators to which it provides its services in its SMS.

3. The severity shall apply to the worst foreseeable condition of the consequences of the hazard.

4. Examples of specific hazards addressed in this matrix result from the general danger caused by the COVID-19 pandemic.

Process	Hazard Examples	Possible Consequences Examples	Risk Index	Possible Mitigations Examples	Operational Considerations during the contingency Period	Considerations before returning to regular operations	Operational Considerations during the first months of return to regular operations
Change management	Effects of the COVID-19 pandemic on the maintenance staff mental health	Decreased emotional, psychological and social conditions of maintenance staff	Example (3B)	- Identify high-risk individuals or groups. - Monitor human resources individually. - Conduct regular prevention talks with mental health specialists. - Carry out periodic talks on job safety, stress, emotion management and psychological and social conditions in times of COVID-19 crisis. - Direct communication bodies with AMO	- Create a mental health team that includes area professionals such as psychiatrists and psychologists - Establish remote counseling and intervention programs with psychiatrists and psychologists - Create a working environment conducive to taking care of the mental health of the staff and allow access to all instances - Improve social support systems such as family,	- Coordinate with the CAA and submit for acceptance the recovery plan, in order to restore the mental health conditions of affected personnel	- Implement the recovery plan to restore the mental health conditions of affected personnel

Process	Hazard Examples	Possible Consequences Examples	Risk Index	Possible Mitigations Examples	Operational Considerations during the contingency Period	Considerations before returning to regular operations	Operational Considerations during the first months of return to regular operations
				heads, managers and executive officer. - Establish extended committees led by AMOs responsible executives. - Improve the organization´s internal communication. - Supervise staff to detect signs of deterioration in their mental health. - Provide immediate treatment in case maintenance personnel are detected with a decrease in their mental health. - Follow-up by the human resources department in case of reported medical cases. - Develop, publish and apply mental health guides. - Implement the health measures established by the State.	group of friends, group of work colleagues, etc. - Continuously monitor the effective implementation of mitigations and barriers		

Process	Hazard Examples	Possible Consequences Examples	Risk Index	Possible Mitigations Examples	Operational Considerations during the contingency Period	Considerations before returning to regular operations	Operational Considerations during the first months of return to regular operations
Change management	- Lack, or limitation, of resource allocation - Workload due to decreased staff due to isolation - Fatigue - Financial hardship stress - Lack of materials and inputs for the implementation of maintenance tasks - Lack of aircraft spare parts and parts - Absence of internal and external communication due to isolation and distancing	- Safety margins reduction. - Reduced the capacity of maintenance personnel to perform their tasks accurately, completely or to tolerate adverse operating conditions - Non-motor system/component failure or malfunction (SCF-NP) - False fire or overheating alarm • With canopy • With flight controls • With windshield / window / door • With landing gear • Unintentional/ explosive decompression • Tire explosion • Explosion		- Use the organization's SMS, identify hazards and manage the risks caused by the COVID-19 pandemic. - Establish and implement advanced indicators to anticipate weaknesses and vulnerabilities as a result of change or performance monitoring after the change. - Allocate sufficient resources for maintenance tasks based on contracted work. - Review of maintenance planning to consider the proper execution of tasks according to the available personnel. - Identify the staff who are fatigued and provide them with the necessary rest. - Give regular talks on job safety and how to	- Establish and implement interfaces and interactions with the air service operators to which it provides maintenance services to effectively manage the risks identified in their SMS - Implement and control the effectiveness of barriers and mitigations as soon as possible, through advanced indicators - In case AMO has reduced its staff, establish and implement shorter working hours, regular rest periods and rotating shifts for staff working in critical maintenance areas - Identify the trends of the last 3 years and focus management through remote and desktop audits.	- Depending on the magnitude of the change towards normal operations, perform a new risk analysis - Reschedule internal and external audits of the periodic audit programme - Include in the SMS the indicators that are necessary to control and mitigate all findings that generate risks to the processes that the AMO follows - Coordinate and submit to the CAA the recovery plan, which will be implemented, once normal operations have been initiated, in an orderly and safe manner until all extended maintenance activities are restored.	- Implement the recovery plan to orderly and safely restore all granted extensions - Reactivate the audit plan - Capitalize the experiences acquired during the exemption period and use them as normal procedures, if applicable - Validate the results of activities carried out through remote and desktop audits on the critical processes of the AMO

Process	Hazard Examples	Possible Consequences Examples	Risk Index	Possible Mitigations Examples	Operational Considerations during the contingency Period	Considerations before returning to regular operations	Operational Considerations during the first months of return to regular operations
	- Absence of procedures related to new working conditions - Inactivity of maintenance staff and absence of planned (periodic) training with consequent decrease in competence - Lack of availability of maintenance data, inaccurate data or job order transcription errors - Unapproved parts (SUP) that are defective, or do not correspond	• Structural failure • In-flight component loss • Loss of ground component • Fuel leaks - System failure or malfunction / engine component (SCF-PP) • Engine failure in flight • Engine failure on the ground • With propeller • With rotor • Overheating • Fire - Accidents by SCF-NP / SCF-PP • Aircraft or equipment destroyed		overcome financial difficulties in times of crisis by COVID-19. - Provide sufficient materials and equipment for maintenance work giving priority to the contracted work. - Improve the internal and external communication of staff. - Ensure that the procedures developed by the changes caused by the pandemic are documented and that staff have been trained in them. - Identify the staff who have lost their competence and reclassify them immediately, using virtual means. - Exercise continuous supervision so that maintenance work is carried out with	- Regarding remote and desktop audits: • Ensure that these are carried out by competent auditors authorized by the AMO. • Develop appropriate procedures adapted to the means of remote collection and verification of evidence. - Train AMO auditors and staff in remote and desktop audit procedures. - Maintain the competence of auditor staff using available and appropriate information and communication technologies.		

Process	Hazard Examples	Possible Consequences Examples	Risk Index	Possible Mitigations Examples	Operational Considerations during the contingency Period	Considerations before returning to regular operations	Operational Considerations during the first months of return to regular operations
	- Poor control of outsourced maintenance - Lack of, or inadequate control of airworthiness directives - Lack of control or registration of tools - Poorly calibrated tools - Inappropriate or improper use of task tools - Inadequate technical support via telework	• Aircraft with structural damage or breakage • No fatalities • With fatalities • Serious injuries - Serious incidents (see examples in Annex 13, Attachment C) - Injuries to people - Mild incidents - Annoyance - Operational limitations - Use of emergency procedures - Few consequences		reference to established manuals and procedures. - Double oversight to: ✓ detect errors of maintenance personnel in the installation of components ✓ improve control of subcontracted maintenance and airworthiness directives ✓ avoid the use of poorly calibrated tools or with expired calibration dates ✓ detect tools that may have been forgotten in critical aircraft areas - Improve the technical conditions of telework and train the staff in them			

Appendix B
Examples of Probability and Severity Tables and Risk Assessment Matrices

Figure 1: Safety risk probability table

Probability	Meaning	Value
Frequent	Likely to sometimes occur (it has happened frequently)	5
Occasional	Likely to occur (it has happened infrequently)	4
Remote	Unlikely to happen, but possible (rarely has it happened)	3
Improbable	Very unlikely to occur (not known to have happened)	2
Extremely improbable	Almost inconceivable that will occur	1

Note. *– This is an example only. The level of detail and complexity of tables and matrices should be adapted to the particular needs and complexities of each organization. It should also be noted that organizations might include both qualitative and quantitative criteria.*

Figure 2: Severity table

Severity	Meaning	Value
Catastrophic	• Aircraft / equipment destroyed • Multiple deaths	A
Hazardous	• A large reduction in safety margins, physical distress or a workload such that operational personnel cannot be relied upon to perform their tasks accurately or completely • Serious injury • Minor equipment damage	B
Major	• A significant reduction in safety margins, a reduction in the ability of operational personnel to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency • Serious incident. • Injury to persons	C
Minor	• Nuisance • Operating limitations • Use of emergency procedures • Minor incident	D
Negligible	• Few consequences	E

Figure 3: Safety risk matrix

Safety risk probability		Risk severity				
		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely improbable	1	1A	1B	1C	1D	1E

Table 4. Example of safety risk tolerability

Safety risk index range	Safety risk description	Recommended action
5A, 5B, 5C, 4A, 4B, 3A	Intolerable	Take immediate action to mitigate the risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to tolerable.
5D, 5E, 4C, 4D 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	Tolerable	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk.
3E, 2D, 2E, 1B, 1C, 1D, 1E	Acceptable	Acceptable as is. No further risk mitigation is required.

Appendix C
Documentation to request from the CAA an exemption on the expiration date, or ongoing validation, of the AMO certificate

1. Letter addressed to the CAA signed by the Accountable Manager of the AMO with the request for the extension of the requirement applicable to the renewal of the AMO certificate.

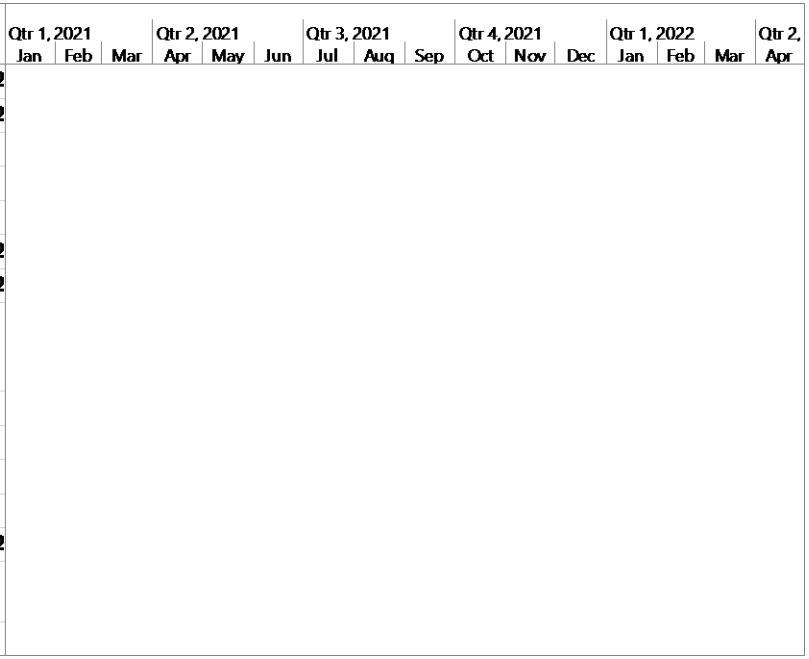
2. Safety risk analysis related to change of management due to the COVID-19 pandemic, the results of which could enable the CAA to make the requirement of continuous renewal or validation of the AMO certificate more flexible, and to grant the exemption to continue to offer maintenance services according to its extended-date capability list.

***Note**. – The applicant shall take into account that the granting of extensions to the validity, or continuous validation, of the AMO certificate shall be conditional on satisfactory compliance with LAR 145 requirements and risk analysis relating to change of management due to the impact of the pandemic and possible mitigations.*

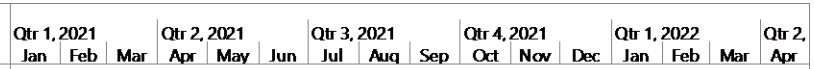
3. An AMO statement indicating that before returning to normal operations, it shall coordinate and submit for approval from the CAA the recovery plan of the organization, in which it shall describe all activities and deadlines for re-establishing the authorized extensions.

Appendix D
Example of an AMO Recovery Plan (Gantt chart)

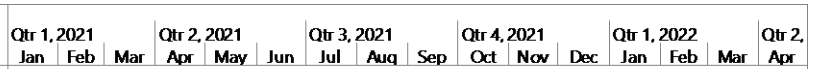
ID	Task Mod	Task Name	Duration	Start	Finish
1		**RECOVERY PLAN**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
2		**Coordination with the AAC**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
3		Meeting with the AAC to report on OMA actions			
4		Submit recovery plan to the AAC			
5		Acceptance of the recovery plan			
6		**Implementation of the recovery plan**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
7		**Maintenance Organization Handbook (MOM)**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
8		Review of the MOM in order to establish which included procedures should be withdrawn or should remain			
9		Submit the MOM review to the AAC			
10		MOM acceptance			
11		Publish the MOM and distribute it to the org			
12		Train OMA staff in the latest MOM review			
13		**Calibrated tools**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
14		Calibrate all tools that may have expired during the certificate expiration extension			
15		Update the calibrated tool control			



ID	Task Mod	Task Name	Duration	Start	Finish
16		Review the procedure on calibrated tools and incorporate the revision into the MOM			
17		**Maintenance personnel's licenses**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
18		Request renewal of the licenses of staff who may have expired during the OMA			
19		Renewing licenses			
20		Update the license expiration control list			
21		**OMA certificate renewal inspection**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
22		Coordinate with the AAC the date on which the inspection will be carried out			
23		Conducting the inspection			
24		Correction of findings that may arise from the inspection			
25		Review of actions taken by the OMA			
26		Acceptance of actions taken by the OMA			
27		Issuance of the certificate and list of capaciti			
28		**OMA Quality System**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
29		Updating the audit plan			



ID	Task Mod	Task Name	Duration	Start	Finish
30		Conducting internal audits			
31		Conducting audits to service providers (exter			
32		**Operational safety system**	**1 day**	**Wed 5/27/2**	**Wed 5/27/2**
33		Assess the current SMS situation			
34		Review the necessary documents			
35		Establish interaction with other service provi			
36		Development of engagement-related SPI (identifying hazards)			
37		Risk management			
38		Continue promoting operational safety			



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