

ADVISORY CIRCULAR

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ISSUED BY	:	SRVSOP

SUBJECT: GUIDELINES FOR LAR 141 ATOs FOR MANAGING CHANGES RESULTING FROM THE COVID-19 PANDEMIC, WITH THE CORRESPONDING RISK ASSESSMENT AND MITIGATION

1. PURPOSE

This advisory circular provides information and guidance on the measures that an aviation training organization (ATO) may adopt to address the changes brought about by the COVID-19 pandemic that affect their training activities.

2. SCOPE

2.1 This AC is intended for 141 ATOs requesting temporary exemptions regarding:

- a) An extension of the expiration date of the ATO certificate issued by the CAA, or when the ATO has not been subject to an inspection/audit by the CAA that issued the certificate for a maximum period of 24 months.
- b) The training programme approved by the CAA for the training of aeronautical personnel;
- c) The procedures to meet LAR 141 requirements established in the ATO's training and procedures manual (TPM).

Note. – Extensions to the currency of certificates or deviations from LAR requirements in the context of COVID-19 are considered as exemptions.

2.2 This AC also provides recommendations on sanitary measures to be adopted by the ATO to ensure clean crews (instructors, examiners, and students), clean aircraft, and clean facilities, as promoted by ICAO to reduce COVID-19 health risks and build confidence among ATO staff and students.

3. APPLICABILITY

3.1 This guidance material is not of a mandatory or regulatory nature. It describes acceptable, but not the only methods that the ATO may use to address the changes resulting from COVID-19, in relation to the request for easing measures, as temporary exemptions from the requirements set forth in LAR 141 and the procedures accepted by the CAA in the TPM.

3.2 The temporary exemptions described in this AC shall not be used by those ATOs that have been suspended or partially suspended in the last two (2) years since the start of suspension of activities due to social isolation measures issued by the States.

4. ANNEXES AND REGULATIONS RELATED TO THE AC

- a) Annex 1 – Personnel Licensing. Appendix 2, Amendment 175.
- b) LAR 141 – Civil aviation training centres, Amendment 10, June 2020.

5. RELATED DOCUMENTS

- a) Recommendation 3 of safety-related measures of the ICAO Council Aviation Recovery Task Force (CART) report, June 2020.

- b) Take-off: Guidance for air travel through the COVID-19 public health crisis, published by the ICAO CART, June 2020.
- c) Electronic Bulletin (EB) 2020/30 on implementing a public health corridor to protect flight crew during the COVID-19 pandemic, CAPSCA, ICAO.
- d) Doc 10144 – ICAO Handbook for CAAs on the management of aviation safety risks related to COVID-19, First edition, May 2020.
- e) Strategic framework of the SAM Region, Activity 10 – Safety risk map.
- f) Guidance Coronavirus (COVID-19): General Aviation, Update 30 June 2020, Department of Transport, United Kingdom.

6. INTRODUCTION

- 6.1 Due to physical distancing restrictions, closure of workplaces, and other preventive measures adopted by the States to prevent or reduce the spread of the coronavirus, the International Civil Aviation Organization (ICAO), in order to facilitate safe operations during the COVID-19 pandemic, issued letter AN 11/55-20/50 dated 3 April 2020, encouraging States to be flexible in their approaches while at the same time adhering to their obligations under the *Convention on International Civil Aviation* (Doc 7300, Chicago Convention).
- 6.2 Following ICAO guidelines, States have adopted various measures to maintain the validity of certificates, licences and other approvals of service providers and aviation personnel during the COVID-19 pandemic. These measures, which may include temporary deferral of national regulatory requirements, also known as extensions, reliefs or easing of measures, and which are necessary to maintain aviation operations during the COVID-19 pandemic, constitute temporary exemptions or deviations and thus must be reported as differences in accordance with Article 38 of the Chicago Convention. See paragraph 1.2.5 of ICAO Doc 10050 on temporary or short-term differences.
- 6.3 Within the framework of the ICAO safety management system (SMS), Element 3.2 – *Management of change* of Component 3 – Safety assurance, explains the factors that change the experience of ATOs, such as changes in the operating environment of the organisation, external regulatory changes, economic changes and emerging risks. A more detailed analysis of this element follows.

7. MANAGEMENT OF CHANGE

- 7.1 Restrictions resulting from COVID-19 have caused dynamic changes in the provision of services, aircraft operations, and the civil aviation systems of States.
- 7.2 The ATO is not alien to this context and will therefore identify the element(s) that trigger the formal change process. Some elements that may trigger the aforementioned process are listed below:
 - a) introduction of new technologies or equipment;
 - b) changes in the operating environment;
 - c) changes in key personnel;
 - d) significant changes in staffing levels;
 - e) changes in regulatory safety requirements;
 - f) requirements or restrictions established by State authorities other than the aviation authority;
 - g) significant restructuring of the organisation; and
 - h) physical changes (new facilities) or changes in the general structure of the organisation.
- 7.3 Based on these triggering factors, the ATO will identify new hazards and risks introduced into its organisation by COVID-19. It will also coordinate with approved maintenance organisations from which it receives aircraft maintenance services and with aerodromes it uses for flight training, for the sharing of safety data and information regarding failures, defects and malfunctions that have been identified in relation to aircraft maintenance or the facilities provided by aerodromes. By sharing this

safety data and information, the ATO will be able to identify new hazards and risks, and take the corresponding mitigation measures to reduce risks in the provision of its training services.

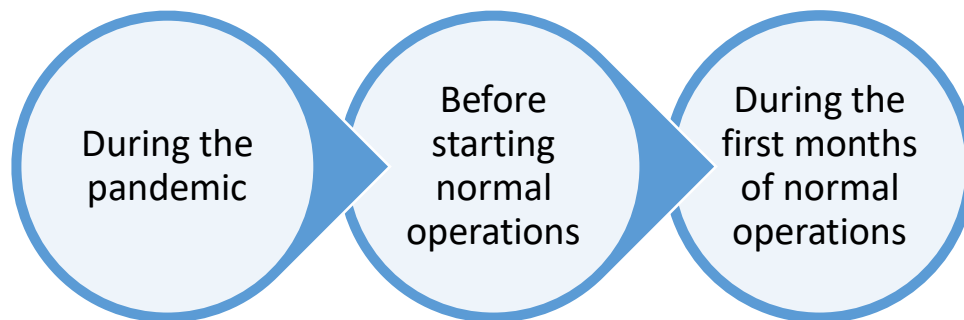
- 7.4 The ATOs will also take into account the impact of change on their personnel. This could have an impact on the way in which the individuals accept change. Early communication and involvement usually improve the way in which changes are perceived and implemented.
- 7.5 For ATOs to provide their services without restrictions during the COVID-19 pandemic, they must obtain from the certifying CAA the corresponding authorisation to operate under certificates with extended expiration dates, or without an inspection/audit for a maximum period of 24 months in the case of ATOs holding certificates with no expiration date, as established in LAR 141.
- 7.6 They could also ask for easing measures through exemptions to other LAR 141 requirements that, as a result of COVID-19, would be impossible to meet due to certain restrictions established by the State.
- 7.7 For the cases described in paragraphs 7.5 and 7.6, which are regulatory requirements covered by procedures established in the TPM (approved by the accountable manager and accepted by the certifying CAA), the ATO shall submit to the CAA a request for a temporary exemption during the COVID-19 pandemic.

8. EXEMPTION ACCEPTANCE PROCESS

8.1 Initial analysis of risks resulting from changes caused by the COVID-19 pandemic

- a) The existing systematic hazard identification processes of ATOs will allow them to conduct an appropriate initial risk analysis (hazard identification, risk assessment and mitigation) of the changes caused by COVID-19.
- b) Given the dynamic changes in theoretical and flight training services caused by the pandemic, the ATOs will continuously update or amend their risk management processes, especially when moving from restricted operations during the pandemic to normal unrestricted operations, given the drastic change to be experienced by the civil aviation system.
- c) It is important to understand the size and complexity of ATO operations in each phase of the pandemic in order to achieve a high level of safety performance. It is also important for aviation training organizations to provide a description of their systems, with their interfaces and interactions, so that the personnel may know and fulfil their safety management duties and responsibilities. The phases that have been identified in relation to the management of risks and extensions during and after the pandemic are described below:
 - i) **during the pandemic:** period that includes training provided while exemptions to regulatory requirements are in force, the renewal of which will depend on the evolution of the COVID-19 pandemic, physical restrictions in place, whether full or moderate, and health protocols for controlling the spread of the virus. This stage is directly dependant upon the evolution of the pandemic and the adoption of measures to curb its spread.
 - ii) **before starting normal operations:** period in which it is foreseen that physical and sanitary restrictions will be eliminated to resume normal operations.
 - iii) **during the first months of normal operations:** period in which all exemptions will be eliminated and the currency or validity of certificates, licences, authorisations, ratings and other approvals that had been extended will be restored. During normal operations, the ATOs will operate without any physical or sanitary restrictions.

Figure1 – Phases related to the management of risk and exemptions during and after the pandemic



8.2 Request for exemption to LAR 141 requirements leading to temporary revision of the TPM

- a) Once the ATOs identify the hazards and their possible consequences, they will develop the risk and exemption management matrix, showing possible mitigations and operational conditions to be implemented during the pandemic, before starting normal operations and during the first months of normal operations.
- b) Next, the ATOs will submit to the certifying CAA the corresponding request for exemption regarding the extended currency or continuing validity of the certificate, as well as regarding those LAR 141 requirements that cannot be met due to the COVID-19 context, in the form and manner established in the national regulations. [Appendix C](#) describes the documentation for requesting the corresponding exemption to the CAA.
- c) As attachments to the request, the ATOs will submit the risk analyses of the new hazards identified as a result of changes brought about by COVID-19 and the temporary amendments to the TPM.
- d) The mitigations established in the risk analyses and the operational considerations will constitute the barriers supporting the requested exemptions.
- e) Only when the CAA has authorised the requested exemptions, the ATOs will be able to operate according to the authorisation granted.

8.3 Acceptance of the request for exemption

When submitting the request, the ATOs, in addition to the risk analyses, will also attach the revised TPM containing the training programmes for their personnel. So as not to change the order of the TPM and facilitate their removal when starting normal operations, these modifications must be contained in an additional chapter or appendix.

8.4 Training of ATO personnel in the amendments made to the TPM, in accordance with the amended training programme

Once the requested exemption has been granted and TPM amendments have been accepted, the head of the ATO training department will be responsible for training the instructors and examiners in the revised and amended procedures, in order to ensure their proper implementation. It is important that training be provided to the personnel so that they may adapt to the assigned tasks and responsibilities.

8.5 Training records

According to TPM record control procedures, detailed physical and electronic records must be kept to show that the personnel have received proper training in TPM revisions.

9. EXAMPLES OF EXEMPTIONS, AS EASING MEASURES, FOR A 141 ATO DURING THE COVID-19 PANDEMIC

9.1 Extended validity of the ATO certificate or of the ATO oversight audit carried out by the CAA in the preceding 24-month cycle.

- a) This extension will be granted provided the ATO demonstrates effective implementation of the corrective action specified in the CAP, corresponding to the last oversight audit conducted by the CAA, within the 24-month cycle established in paragraph (b) of Section 141.120.
- b) Likewise, in order to provide flight training to students, the ATO shall have an SMS in place or in process of implementation, which addresses the new hazards identified in relation to COVID-19, as well as the corresponding risk analysis and mitigation. This assessment must be documented and accepted by the CAA.
- c) Likewise, in the revised TPM, the ATO shall include procedures to ensure the planning, control and performance measurement of the training it offers due to changes resulting from COVID-19.

9.2 Virtual theoretical courses

- a) ATOs may request an exemption in order to provide theoretical courses in a percentage greater than that specified in Appendix 18 to LAR 141, provided they follow all the guidelines established in said appendix.
- b) The ATO must ensure that partial and final evaluations on each subject matter follow a procedure that ensures remote monitoring of each student by the instructor, and that there is evidence thereof for the CAA, always following the principles of reliability, truthfulness, authenticity and objectivity when conducting such evaluations.
- c) Courses should be recorded in a registry so that the CAA may inspect them when deemed appropriate.
- d) Remote attendance/participation of students in these courses must be registered. The ATO will demonstrate, through established means agreed with the CAA, that all the students meet the attendance requirements, and their active participation in class shall be assessed.
- e) To supplement virtual courses, it would be advisable to conduct virtual workshops or forums to clarify any doubts about thematic contents before conducting knowledge checks.
- f) To that end, each ATO will submit the revised training programme for the courses it has been authorised, in accordance with the requirements contained in Appendix 18 to LAR 141.

9.3 Internal audits of the quality assurance system

The ATO may request an exemption to the performance of audits to its quality assurance system as required in Section 141.255, by submitting a revision to its 2020 internal audit plan, providing a new calendar and requesting authorisation to conduct partial desktop audits, self-assessments or questionnaires instead of on-site audits while isolation measures are in force. To this end, it will submit to the approval of the CAA the procedures for their implementation and the way in which findings will be followed up.

9.4 Extended currency of LAR 141 flight instructor and flight examiner competencies

- a) In accordance with Section 141.230, in order to perform the functions of the flight instructor rating, the instructor must meet the requirements contained in Chapter J of LAR 61, which refers to keeping current a commercial pilot or superior licence, have recent experience in accordance with Section 61.140 and approve a proficiency check as flight instructor every 24 months, pursuant to Section 61.1135 (b).
- b) Furthermore, Section 141.240 establishes that, in order to exercise the flight instructor functions authorised by the CAA in a 141 ATO, the holder of the authorisation must have a proficiency check every 12 months in the aircraft in which students seeking the correspondent licence and/or rating are evaluated.
- c) If these checks cannot be carried out by the CAA on the specified dates because of the measures established by the State as a result of COVID-19, the ATO could request an exemption for extending the currency of the required proficiency checks, as well as the restoration of recent experience, by presenting a risk analysis and the corresponding mitigation measures to be applied during the pandemic and before starting normal service.

10. MANAGEMENT OF EXEMPTIONS

10.1 Implementation of mitigations

Once easing has been authorised by the CAA, the ATOs will implement the mitigation measures established as a result of the risk analysis.

10.2 Operational and health considerations during the pandemic

a) Operational

- i) Operational considerations during the pandemic will enable de ATO to verify if mitigation measures were appropriate and identify new potential hazards. Likewise, the implementation of barriers and safety performance measurements will ensure the efficiency of risk controls applied during the pandemic.
- ii) All the results obtained shall be documented as part of safety risk management (hazards, consequences, risk assessments, and all mitigation measures adopted to control such risks), preferably in digital format.
- iii) This documentation will be a basic source of safety-related knowledge and may be used as a reference for decision-making, and shared with other centres.
- iv) Another important aspect is that all the information will provide material for trend analysis and will allow the ATOs to make data-driven decisions.
- v) In order to determine if ATOs are capable of fulfilling all the ratings authorised by the CAA in their training specifications, they will conduct a risk analysis, and if it is determined that any rating (training course) may generate a risk that cannot be mitigated, it shall cease such activity and inform the CAA. In case of self-suspension, the ATOs do not need to request an amendment of the training specifications.
- vi) It should be noted that the critical processes carried out by ATOs during this period might change based on the evolution of the pandemic (resurgence).

b) Health

- i) Health considerations applied during the pandemic and before starting normal operations are listed in [Appendix E](#) to this circular.

10.3 Considerations before starting normal operations

- a) Once the CAA has set the date in which normal activities can be resumed, the ATOs will develop a **recovery plan** defining all the activities required to restore the temporary exemptions granted and resume normal operations in an orderly and safe manner. This plan will be submitted to the CAA for acceptance and oversight.
- b) Among their main activities, the ATOs will immediately start reviewing the TPM to identify what procedures could be removed or what procedures can be improved. Once this task has been completed, they shall hold virtual meetings with the principal ATO inspector to address the issues that will be modified in the manual to ensure proper acceptance of the TPM by the CAA.
- c) Once the TPM has been accepted, training must be immediately provided to all their personnel to ensure that they are aware of, and understand, the changes.
- d) The **recovery plan** will contain a sequential task schedule, indicating the time to be devoted to each of the different tasks and activities over a given period of time, specifying the different exemptions and the activities to be carried out to resume normal operations in accordance with the corresponding requirements. Therefore, it is recommended that a Gantt chart be developed and attached to the recovery plan. [Appendix D](#) contains an example of a Gantt chart.
- e) In order to ensure that the **recovery plan** covers all the activities required for a smooth restart of normal operations by the ATO, the training centre will conduct a self-assessment to determine its status, especially concerning the processes affected by the exemptions granted due to COVID-19.

10.4 Considerations upon restart of normal operations

- a) When starting normal operations, the ATO will implement the **recovery plan** to restore the exemptions granted in an orderly and safe manner. The plan will be implemented in accordance with the established programme accepted by the CAA.
- b) Once operations are back to normal, the ATOs shall not maintain the temporary exemptions related to COVID-19. In case temporary exemptions are maintained after the pandemic, the CAA will notify ICAO of the corresponding differences through the EFOD system.
- c) Once normal activities are resumed, the ATO will conduct a new self-assessment of the processes involved, in order to determine if certification standards continue to be met.

11. RECOVERY PLAN

11.1 Content

- a) The recovery plan will be a document to be submitted by the ATO, signed by the accountable manager, that defines how the training centre will resume normal activities. This document must be aligned with the recovery of the processes required for normal operation of the ATO; therefore, it will include all the operational aspects for reestablishing said processes.
- b) The recovery plan must describe its objective, scope, the requirements that were subject to exemption, recovery activities, responsible parties, safety risk management, taking into account the transition to normal operations, control and monitoring processes, as well as estimated duration.
- c) Likewise, the recovery plan will include criteria to determine when a safety problem cannot be solved using the normal procedures, due to the reduced ability of the training centre to carry out the essential processes.

11.2 Format

The ATO is expected to develop a recovery plan that contains at least the following sections:

- a) Introduction;

- b) Objective;
- c) Scope;
- d) Description of the requirements that were subject to exemption;
- e) Description of recovery activities, with start and end dates;
- f) Responsible parties;
- g) Resources required;
- h) Safety risk management;
- i) Control and monitoring;
- j) ATO capabilities under abnormal procedure conditions; and
- k) Gantt chart (appendix).

Note: Items (e) and (f) must be contained in an implementation plan (Gantt), with estimated dates and signed by the accountable manager. Whenever a deadline is not met, the plan must be revised and updated, and signed by the accountable manager for acceptance by the principal ATO inspector.

8. BACK TO NORMAL

- 12.1 Once training activities are stabilised following the COVID-19 pandemic, the quality system will assess the risk associated with the applied exemptions, with special emphasis on the risk associated to instructors and examiners who were not able to work for a long period of time due to the reduction of ATO training operations or any other impact of the COVID-19 crisis on human factors, including the students receiving the training.
- 12.2 It is foreseen that temporary exemptions or extensions will be valid until 31 March 2021 or until ATO operations go back to normal, whichever occurs first.

13. EXAMPLES OF MATRICES AND TABLES FOR MANAGING RISKS AND EXTENSIONS GRANTED

- 13.1 **Appendix A** contains examples of matrices for managing risks and extensions granted, so that ATOs may use them as a reference when conducting their own risk analyses and for establishing the operational considerations for each identified phase. The risk analyses will be submitted to the CAA, together with the request for exemption, in accordance with CAA regulatory requirements.
- 13.2 **Appendix B** contains examples of likelihood and severity tables and safety risk assessment matrices, based on the example tables and matrices contained in Doc 9859, fourth edition. However, the CAA will provide guidance to its service providers on the use of the risk assessment methodology adopted by the State.
- 13.3 **Appendix C** describes the documentation to request the CAA for an exemption to the expiration date of the certificate or continuing validity of the ATO certificate, and to certain LAR 141 requirements.
- 13.4 **Appendix D** contains an example of a recovery plan Gantt chart.
- 13.5 **Appendix E** sets forth the health considerations that the ATO will have to establish and meet to prevent the spread of the COVID-19 virus and protect its personnel and students.

APPENDIX A

Example of matrix for managing risks and exemptions granted to 141 ATOs as a result of changes brought about by COVID – 19

Process	Examples of hazards	Examples of possible consequences	Risk index	Examples of possible mitigations	Operational considerations during the pandemic	Considerations before resuming normal service	Operational considerations during the first months of normal service
Management of change	Effects of the COVID-19 pandemic on the mental health of ATO instructors and students.	Impairment of the emotional, psychological, and social condition of the staff.	Example (3B)	<ul style="list-style-type: none"> - Identify high-risk individuals or groups. - Implement the health measures established by the State and the ATO itself. - Periodic webinars by experts in management of stress and emotions, and psychological and social conditions during the COVID-19 crisis. - Improvements in the internal communications of the organisation. - Personnel monitoring to detect signs of mental health impairment. - Development, publication and implementation of sanitary and mental health prevention guides during the COVID-19 crisis. 	<ul style="list-style-type: none"> - Create a favourable work environment to safeguard the mental health of the staff, building trust for the conduction of training operations, ensuring clean crew (instructors and students), clean aircraft and clean facilities (lounges and aerodromes). - Implement different communication and personnel training activities with regard to mental health problems and how to overcome them. - Conduct anonymous surveys to know the concerns of staff, and tailor communication and training accordingly. - Continuous monitoring of effective implementation of mitigations and barriers. 	<ul style="list-style-type: none"> - Coordinate with, and submit for acceptance to, the CAA the recovery plan that includes actions to maintain the staff involved in optimum mental health condition. 	<ul style="list-style-type: none"> - Implement the recovery plan in relation to maintaining all the staff in optimum mental health condition.
Management of change	Abrupt interruption of the flight training programme for students.	Reduction of flight skills achieved by the student.	Example 3C	<ul style="list-style-type: none"> - The ATO SMS shall conduct ongoing risk analyses of the flight training process for students. - Develop a specific retraining programme for students undergoing flight training, due to the prolonged suspension of air activities, to be approved by the CAA. 	<ul style="list-style-type: none"> - Priority assigned to retraining of students that have completed training and are ready for proficiency check with the CAA. - Meet health control requirements established by the WHO and the CAA for flight training activities. - Define fixed instructor/student teams so 	<ul style="list-style-type: none"> - Coordinate with, and submit for acceptance to, the CAA the recovery plan that includes actions to carry out the flight training process under normal conditions. - Suspend some operational considerations established during the 	<ul style="list-style-type: none"> - Implement the recovery plan to start flight training in accordance with the training programme approved by the CAA at the time of certification, with no easing measures. - Increase the number of instructors as needed in order to
		Lack of practice in the operational procedures established in the training programme.	Example 3C				
		Loss of validity of the recommendation of the flight instructor to do the flight check with the CAA (30 days).	Example 2A				

Process	Examples of hazards	Examples of possible consequences	Risk index	Examples of possible mitigations	Operational considerations during the pandemic	Considerations before resuming normal service	Operational considerations during the first months of normal service									
				<ul style="list-style-type: none"> - Review practical exercises (emergencies) using alternative methods. - Use of ATO FTDs authorised by the CAA for IFR flight practice prior to actual flight. - Flight plans filed only by radio or using information technologies proposed by the ATO and authorised by the CAA. - Virtual training of students in biosafety measures established by the ATO for flight training activities and students' commitment to compliance. 	<p>that, in case of infection with COVID-19 it will not spread to other students and instructors.</p> <ul style="list-style-type: none"> - Plan flight training activities with a minimum number of students per day and with the corresponding personal protective equipment. - Avoid contact between crews and ATO administrative and maintenance personnel. - In the event that the student pilot and/or flight instructor, in face of an emergency or a fortuitous circumstance or force majeure, must enter the terminal building of an aerodrome other than the aerodrome of origin where they land, they must meet the health provisions established in the aerodrome. 	<p>pandemic, if the risk in the place where the centre is located has diminished.</p>	<p>reach the level of flight training operations that existed before the COVID-19 pandemic.</p> <ul style="list-style-type: none"> - Monitor implementation through audits, and document outcomes and the corrective action taken in case of deviations. 									
<p>Management of change</p>	<ul style="list-style-type: none"> - Aircraft inactivity due to prolonged suspension of flight training. - Inadequate aircraft maintenance procedures 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="464 1084 741 1177">Loss of aircraft airworthiness.</td> <td data-bbox="741 1084 867 1177">Example 2A</td> </tr> <tr> <td data-bbox="464 1177 741 1253">Reduced safety margins.</td> <td data-bbox="741 1177 867 1253"></td> </tr> <tr> <td data-bbox="464 1253 741 1354">Malfunction of one or more aircraft systems, seriously affecting aircraft operation.</td> <td data-bbox="741 1253 867 1354"></td> </tr> <tr> <td data-bbox="464 1354 741 1398">In-flight engine stoppage.</td> <td data-bbox="741 1354 867 1398"></td> </tr> <tr> <td data-bbox="464 1398 741 1433">Landing gear failure.</td> <td data-bbox="741 1398 867 1433"></td> </tr> </table>	Loss of aircraft airworthiness.	Example 2A	Reduced safety margins.		Malfunction of one or more aircraft systems, seriously affecting aircraft operation.		In-flight engine stoppage.		Landing gear failure.		<ul style="list-style-type: none"> - Comply with aircraft maintenance after the inactivity period. - Follow the maintenance programme issued by the aircraft manufacturer. - Follow the instructions for returning to service following maintenance. - Monitor the programme and carry out controlled maintenance activities that 	<ul style="list-style-type: none"> - Coordinate with the AMO and ATO maintenance personnel in order to start the aircraft maintenance programme in accordance with the manufacturer's manuals. - If flight training operations are restarted, the ATO maintenance personnel shall be provided with the 	<ul style="list-style-type: none"> - Include aircraft maintenance aspects in the recovery plan to be submitted to the CAA for approval. - Communicate to the CAA any situation that compromises safety when an extension of the CofA has been granted, and the ATO will cease operations 	<ul style="list-style-type: none"> - Implement the recovery plan with respect to maintaining aircraft in optimum airworthiness condition. - Review the processes being carried out to determine if procedures need to
Loss of aircraft airworthiness.	Example 2A															
Reduced safety margins.																
Malfunction of one or more aircraft systems, seriously affecting aircraft operation.																
In-flight engine stoppage.																
Landing gear failure.																

Process	Examples of hazards	Examples of possible consequences	Risk index	Examples of possible mitigations	Operational considerations during the pandemic	Considerations before resuming normal service	Operational considerations during the first months of normal service
		<p>In-flight tire burst.</p>		<p>could be overdue when returning to normal activities, in order to certify airworthiness.</p> <ul style="list-style-type: none"> - Request the CAA to extend the certificate of airworthiness (CofA) of aircraft in case it expires during the pandemic. - Prioritise control of expiration dates of airworthiness directives (ADs) and life-limited parts (LLPs). - Damage reporting procedures. - Aircraft inspection. 	<p>established protection and biosafety measures.</p> <ul style="list-style-type: none"> - For aircraft cleaning and disinfection, the procedures and products established by the aircraft manufacturer and WHO will be applied. - Conduct verification flights before resuming training. - Submit monthly aircraft airworthiness reports (self-assessments) to the CAA if an extension of the CofA has been granted. 	<p>until the CAA makes an assessment of the case and gives its authorisation.</p> <ul style="list-style-type: none"> - Submit the CofA renewal documentation to the CAA for assessment and inspection as appropriate, if the CofA had been extended. - Solve all the problems reported by the CAA when reviewing the documents submitted for CofA renewal, where appropriate. - Review the MCM to determine if the procedures developed during the pandemic are still applicable. - Train the ATO maintenance control personnel and AMO personnel providing maintenance services, in the revised MCM procedures. - Schedule the jobs that were extended due to the pandemic and that have been authorised by the CAA (ADs, service bulletins, maintenance programme tasks, change of components, etc.) 	<p>be revised in case of worsening of the pandemic.</p> <ul style="list-style-type: none"> - Increase the number of instructors as needed in order to reach the level of flight training operations that existed before the pandemic.

Process	Examples of hazards	Examples of possible consequences	Risk index	Examples of possible mitigations	Operational considerations during the pandemic	Considerations before resuming normal service	Operational considerations during the first months of normal service
						<ul style="list-style-type: none"> - Restore system capacity after the inactivity period. - Gradual withdrawal of all granted extensions. - Conduct an internal audit to determine the status of the maintenance control system. 	
Management of change	<ul style="list-style-type: none"> - Expiration of the flight instructor rating competencies. - Lack of recent experience. - Expiration of the proficiency check. 	Incidents occurred during take-off or landing.	Example 2A	<ul style="list-style-type: none"> - Maintain the currency and competence of at least one instructor (the one with more experience in the job), so as to retrain the ATO instructor staff to meet the recent experience requirement before providing training to students. - Develop a specific retraining programme for flight instructors, due to the extended suspension of air activities, to be approved by the CAA, that includes: <ul style="list-style-type: none"> ➢ Update on training techniques based on virtual and in-flight 	<ul style="list-style-type: none"> - Implement the programme for retraining of flight instructors and restoration of recent experience, in order to gradually start flight activities, when social isolation measures so permit. - Coordinate with the CAA for the conduction of the proficiency checks that might be about to expire with the granted extensions. - Monitor compliance with the established health measures. 	<ul style="list-style-type: none"> - Include in the recovery plan to be submitted to the CAA for acceptance, elements related to retraining of instructors to ensure their competence. - The ATO will inform the CAA of any situation that compromises safety in relation to the responsibilities, competencies, and limitations of flight instructors. 	<ul style="list-style-type: none"> - Implement the recovery plan with respect to maintaining instructors in optimum flight training condition. - Increase the number of instructors as needed, in order to reach the same level of flight training operations as before the pandemic.
		Lack of skill to control cross-wind during take-off or landing					
		Runway excursion.					
		Hard landing with structural damage					
		Controlled flight into terrain barely avoided					
		Loss of control of the aircraft during take-off or landing					

Process	Examples of hazards	Examples of possible consequences	Risk index	Examples of possible mitigations	Operational considerations during the pandemic	Considerations before resuming normal service	Operational considerations during the first months of normal service
		Undershooting		<p>platforms, evaluation methods, and review of flight and emergency manoeuvres.</p> <ul style="list-style-type: none"> ➤ Flight exercises (emergencies) using alternative methods (virtual classroom, videos and CBT). ➤ IFR flight training in ATO FTDs authorised by the CAA. ➤ Health control measures to be adopted by the ATO, including pre-flight and post-flight briefing with the students. <p>- Stay in permanent communication with instructors and get them involved in hazard identification and the definition of mitigations for purposes of ATO risk management.</p> <p>- Establish mechanisms for providing virtual training, giving all the facilities to instructors.</p> <p>- Request exemptions for extending proficiency checks, where necessary.</p>	<ul style="list-style-type: none"> - Apply health control measures for instructor staff. - Limit the number of students per instructor when programming flights (so that each individual may work with only a few other individuals). - Establish and make sure that only essential personnel are on the aircraft for safety and effective learning purposes. 		

Appendix B

Examples of likelihood and severity tables and risk assessment matrices

Figure 1: Example of safety risk likelihood table

Likelihood	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Note.- This table is only an example. The level of detail and complexity of the tables and matrices must be tailored to the particular needs and complexities of each ATO. It must also be taken in account that ATOs may include both qualitative and quantitative criteria.

Figure 2: Example of safety risk severity table

Severity	Meaning	Value
Catastrophic	<ul style="list-style-type: none"> Aircraft/equipment destroyed Multiple deaths. 	A
Hazardous	<ul style="list-style-type: none"> A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely Serious injury Major equipment damage 	B
Major	<ul style="list-style-type: none"> A significant reduction in safety margins, a reduction in the ability of the operators 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	<ul style="list-style-type: none"> Nuisance Operating limitations Use of emergency procedures Minor incident 	D
Negligible	<ul style="list-style-type: none"> Few consequences. 	E

Figure 3: Example of safety risk matrix

Probability of risk	Gravedad del riesgo				
	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 table

Safety risk index range	Description of risk	Recommended action
5A, 5B, 5C, 4A, 4B, 3A	INTOLERABLE	Take immediate action to mitigate risk or cease activity. Perform priority safety risk mitigation to ensure additional or enhanced preventive controls are in place to bring down the risk index to the tolerable range.
5D, 5E, 4C, 4D 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	TOLERABLE	May be tolerated based on safety risk mitigation. May require a management decision to accept risk.
3E, 2D, 2E, 1B, 1C, 1D, 1E	ACCEPTABLE	Acceptable as is. No further risk mitigation required.

Appendix C

Documentation to request the CAA an exemption due to changes generated by the COVID-19 pandemic

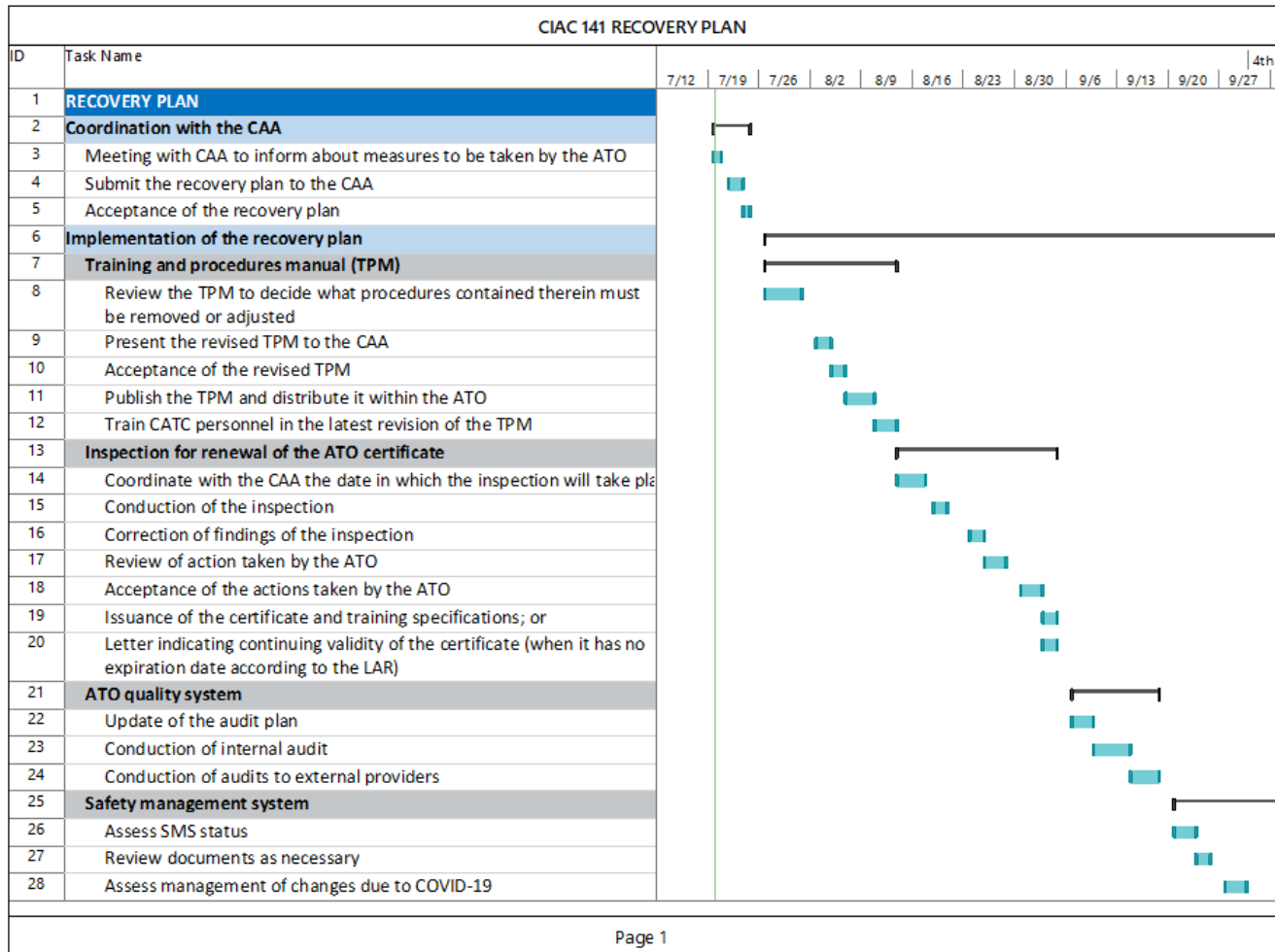
The ATO shall present the following, in the way established by the CAA:

1. Letter addressed to the CAA, signed by the ATO accountable manager, requesting a temporary exemption for the extension or validation of the currency of the certificate and/or LAR 141 requirements.
2. Risk analysis with the corresponding mitigations and operational considerations proposed by the ATO to support the request for exemption to be submitted to the CAA, so that the ATO may continue offering the training services defined in its training specifications.

***Note.** – The applicant shall take into account that the granting of exemptions to LAR 141 requirements will be subject to the risk analysis related to the management of changes resulting from the pandemic and the possible mitigations submitted by the ATO.*

3. A statement by the ATO indicating that, before starting normal operations, it will coordinate and submit the **recovery plan** for approval by the authority, describing all the activities and deadlines for the cancellation of the granted exemptions.

APPENDIX D Example of a Gantt chart for the recovery plan



CIAC 141 RECOVERY PLAN						
ID	Task Name	8/30	9/6	9/13	9/20	9/27 4th Qua
29	Identify new hazards					
30	Establish new SPIs					
31	Risk management					
32	Continue promoting safety					
33	Proficiency checks of instructors and examiners					
34	Programming of assessments with the CAA					
35	Renewal of competencies and certificates					
36						

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APPENDIX E

Health considerations to be met by the LAR 141 ATO during the pandemic and before starting normal operations

1. Introduction

The extensive and varying restrictions applied by States in response to the spread of the COVID-19 pandemic have seriously disrupted the operations of aviation training organizations (ATOs), since they have been forced to comply with the established social isolation measures, resulting in the suspension of training activities.

However, although a vaccine to curb the spread of coronavirus is not yet available, the general population must comply with the health control measures established by the State health authority, in line with the recommendations issued by the World Health Organization (WHO), which can be found in the following link: <https://www.who.int/es/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

Likewise, these measures must be considered in the health protocol or equivalent document developed by the ATOs for resuming flight training activities, when conditions so allow.

2. Objective

The purpose of this document is to present the mitigation measures to be applied by ATOs in order to reduce the possibility of infection among their students, instructors and support personnel when conducting flight training, based on the recommendations provided in the ICAO "Collaborative arrangement for the prevention and management of public health events in civil aviation" (CAPSCA).

3. The health corridor approach

The "health corridor" approach will permit the conduction of flight training operations with minimum restrictions, while preventing the spread of COVID-19, protecting the health and integrity of students and instructors. The key to this strategy is the use of "clean" crew, "clean" aircraft, "clean" airport facilities. "Clean" in this context refers to implementing measures to ensure as far as possible a "COVID-19 free" status.

4. Guidelines to be followed all the time

4.1 Clean crew (students and instructors)

- a) Hand hygiene with water and soap or alcohol-based gel sanitizer.
- b) Avoid eyes, nose and mouth contact.
- c) Adopt respiratory hygiene measures. Cover your mouth and nose with your bent elbow or tissue when you cough or sneeze; throw used tissues immediately in the trash assigned for that purpose and proceed to hand hygiene.
- d) Any member of the crew that has symptoms suggesting a respiratory tract infection or has fever, persistent cough of recent onset, difficulty breathing or any other malaise, shall be relieved of flight operations, and must isolate and seek medical attention as soon as possible.

- e) Keep social distancing between 1-2 metres, both within and outside of ATO facilities, in accordance with the corresponding local requirements.

4.2 Clean aircraft

- a) ATOs are responsible for cleaning and disinfecting the aircraft and the flight training devices with a frequency according to their use, before the flight, and between flights, when there is change of crew. To this end, products of recognised efficacy against COVID-19 must be used, as recommended by WHO and the aircraft manufacturer, as well as the procedure for their application so as not to affect cabin components or cause damage to the aircraft.
- b) Flight deck positions occupied by the student and the flight instructor, as well as frequent points of contact, including headsets, will be disinfected.
- c) ATOs will provide the crew with the necessary disinfection elements and personal protective equipment (PPE).

4.3 Clean facilities

- a) ATOs are responsible for keeping facilities clean, with properly disinfected pre-flight and post-flight briefing areas at the aerodromes they use, to which only the students and instructors conducting the flight will have access.
- b) They must also ensure that all areas available to flight instructors, students and support personnel are thoroughly cleaned, including frequently touched surfaces, such as door handles, handrails, and restroom areas.

5. Guidelines before the flight

- a) Before entering ATO or aerodrome facilities, the instructor and the student shall have their temperature measured using remote methods. If temperature is greater than 37.5°C, they will not be allowed to conduct flight activities.
- b) The crew shall carry out aircraft activities wearing at least face mask and gloves, since the required physical distancing will not be possible inside the aircraft.
- c) Instructors are under the obligation of informing the ATO, before being scheduled for training, if they have had any COVID-19 symptoms during the last 14 days. If that is the case, they cannot be scheduled and will have to be relieved from duty for 14 days as of the date of exposure.
- d) Likewise, upon starting pre-flight briefing, the instructor shall ask the student about the situations described in paragraph c), in order to decide whether training may proceed.
- e) However, it is advisable to have a procedure in place whereby both the student and the instructor can make a sworn statement about their health condition, which can be in physical or electronic format, prior to any flight, and which must be duly filed to ensure compliance.
- f) It is recommended that the elements to be carried on the flight include disposable towelettes soaked in alcohol or a disinfectant effective for eliminating the coronavirus, or a spray container, no bigger than 100ml, containing a 70/30 solution of medicinal alcohol and water.

6. Guidelines during the flight

- a) The crew must practice good hand hygiene, follow physical distancing measures, and minimise non-essential interaction and contact.
- b) Whenever possible, work side by side (instead of face to face) inside the aircraft.
- c) Have available and use hand sanitiser.
- d) Make sure that only essential personnel is on board the aircraft for safety and effective learning purposes.
- e) Both the instructor and the student must have personal protective equipment (PPE), and must have received prior training on its use and disposal.
- f) At the end of the flight and before leaving the aircraft, make sure that the aircraft is left in proper clean conditions for its use by the next crew.

7. Guidelines after the flight

- a) At the end of the flight, the crew must observe physical distancing measures, practice good hand hygiene, and minimise non-essential interaction and contact with individuals other than the crew, to the extent possible.
- b) The instructor and the student will go to the “clean” facility assigned for post-flight briefing, avoiding the presence of third parties. Use of face mask and physical distancing will be observed during this activity.
- c) Alcohol-gel shall be provided at the facilities for cleaning hands after handling logbooks, ratings and similar documents.
- d) Inasmuch as possible, it is recommended that the ATO avoid handling physical documents, implementing forms and documents for digital completion by instructors, to be stored and distributed in a secure and confidential manner.

Note 1.- These recommendations are intended for flight training. However, when the ATO resumes face-to-face theoretical classes, it will have to establish additional measures involving ATO administrative staff as long as there is a risk of infection by COVID-19.