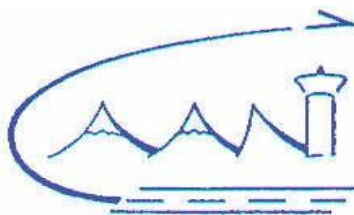


CIVIL AVIATION AUTHORITY OF NEPAL



Guidance to Aviation Service Providers for the Management of Aviation Safety Risks related to COVID-19

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1. Introduction

Background

The global outbreak caused by the corona virus disease 2019 (COVID-19) has had a severe impact on the aviation sector. It is important for all involved stakeholders to assist in limiting its spread by air transport and manage the risks surfacing up in this situation. Due to the urgent need to reduce the risks related to the COVID-19 pandemic by air transport, CAAN has already issued several Safety Circulars and guidance material. This guidance should be read in conjunction with these circulars and guidance material. CAAN has also issued the document "Guidance to Airlines, Airports and Ground Services for Operations during COVID-19" urging the service providers to take mitigation measures to reduce the spread of the COVID-19 by air transport aiming at protecting the health of air travelers and aviation personnel. It is equally true that the successful management of the COVID-19 pandemic requires the assessment and management of risks that extend beyond the boundaries of protecting the health of all stakeholders and also beyond managing the aviation safety risks as defined in Annex 19 — Safety Management.

In this regard, the need for a document guiding the service providers to apply safety management principles in their operations during the pandemic has been recognized.

It is the obligation of CAAN to ensure that all of the different safety risks of the Nepali aviation system are being effectively managed. To fulfill this responsibility, and in accordance to ICAO Doc. 10144, "ICAO Handbook for CAAs on the Management to Aviation Safety Risks related to COVID 19", this guiding document has been prepared by the Civil Aviation Authority of Nepal.

Objective

1.1 This guiding document is intended to support aviation service providers with the management of aviation safety risks during COVID-19 pandemic. It is equally important for the CAAN inspectors to oversee the activities carried out to manage the safety risks during this pandemic. To achieve this CAAN inspectors should refer to ICAO Doc. 10144, for their oversight activities.

1.2 The terms and definitions used in this document are consistent with the ICAO Safety Management Manual (Doc 9859), CAAN SMS Implementation Guidance Material, 2019, and can be applied by organizations at different levels of Safety Management System (SMS) implementation.

- 1.3** The document outlines aspects for service providers to consider at different stages of the pandemic and focuses on:
- A. assessment and prioritization of risks based on collection and analysis of data;
 - B. application of safety management principles to support risk-based decision-making; and
 - C. management and monitoring of CAAN approvals to continue safe operations.
- 1.4** The successful management of the COVID-19 pandemic requires the assessment and management of risks that extend beyond the boundaries of managing aviation safety risks as defined in Civil Aviation Requirement for Safety Management (CAR-19).

Chapter 2.Cooperation, Collaboration and Communication

2.1 The means to cooperate, collaborate and communicate (3Cs) are vital functions to be exercised in tackling crises. Together, the “3Cs” are key to address the pandemic and achieve the best outcomes for the aviation community. Aviation service providers should recognize that these existing functions also continuously contribute to the effective implementation of an SMS, which is important in managing aviation safety risks, including the impact of COVID-19 to the aviation system.

2.2 COVID-19 has highlighted the complex interfaces within States demonstrating the challenges of collaborative decision-making. Decision-making may need to be made based on limited information, taking into account broader risks than only aviation safety. Organizations are encouraged to adopt a safety risk management approach to decision-making.

2.3 Identifying interfaces and establishing channels for communication provides access to expert opinion, which is valuable in understanding the available information in a dynamic situation. Responding under a crisis situation may require qualitative decision-making using a risk management approach and asking practical questions (e.g. What supporting evidence is available? What are the consequences of alternative options? How will delays in decisions impact the situation? What is the risk tolerability for the specific situation? What are the available resources?).

2.4Service providers should share and exchange safety information with other organizations and CAAN and take into consideration lessons learnt to ensure they can best manage the disruption of aviation services. Organizations should make active efforts in recognizing and breaking down information silos which would otherwise reduce the effectiveness of coordinated actions taken to manage risks at the organizational level.

2.5 Service providers should establish a focal point, preferably the Safety Manager, for COOPERATION, COLLABORATION AND COMMUNICATION of safety data and information with CAAN and other organizations.

2.6 Service providers should utilize the Safety Action Group (SAG), a cross-sector committee formed for the SMS implementation to facilitate the identification and management of aviation safety risks in the organization.

Chapter 3. Challenges faced at different pandemic stages

3.1Service providers will be at different levels of maturity in their understanding and application of safety risk management. Managing the safety risks as a result of the pandemic provides an opportunity to test existing or develop new capabilities. Examples of potential new capabilities include operating effectively with reduced resources and using digital platforms to communicate more tactically.

3.2Throughout all the stages of transmission of COVID-19, service providers will need to cooperate, collaborate and communicate with CAAN and other organizations. The Nepalese aviation community recognizes “we are all in this together” to safeguard the viability and the stability of the aviation sector.

3.3The pandemic will have a significant impact on the ability of the organizations to function effectively. Service providers should monitor their resources and continuously assess their capacity to fulfil their safety obligations as this will vary throughout the different stages of the pandemic. Service providers’ senior management should consider human factors principles when assessing such impacts. There may also be funding issues this may impact their financial resources. This may also have a long-term impact on staffing levels and resources for the restart and future infrastructure changes and safety improvements.

Chapter 4. Identification, Collection and Analysis of relevant and available data and information

4.1 Service providers may have access to safety data sources of varying quality depending on the level of SMS implementation. Different organizations will have varying amounts of data available but they should try to gather as much as possible even if it is limited. Collecting available data will enable analysis and the development of information to support the data-driven decision-making process. Benchmarking the current situation will help model scenarios to support the management of safety risks and a better understanding of the impacts that any decision will have on aviation.

4.2 To collect the relevant data and information, service providers are encouraged to establish an open and continuous dialogue with CAAN, other aviation organizations and other stakeholders involved in tackling the pandemic.

4.3 Service providers should establish mechanisms so that the collected data and information can be updated frequently to cope with the dynamic nature of the pandemic. The data collected should be used to inform the application of a risk management approach for the activities of the organizations and support the development of plans to restart operations.

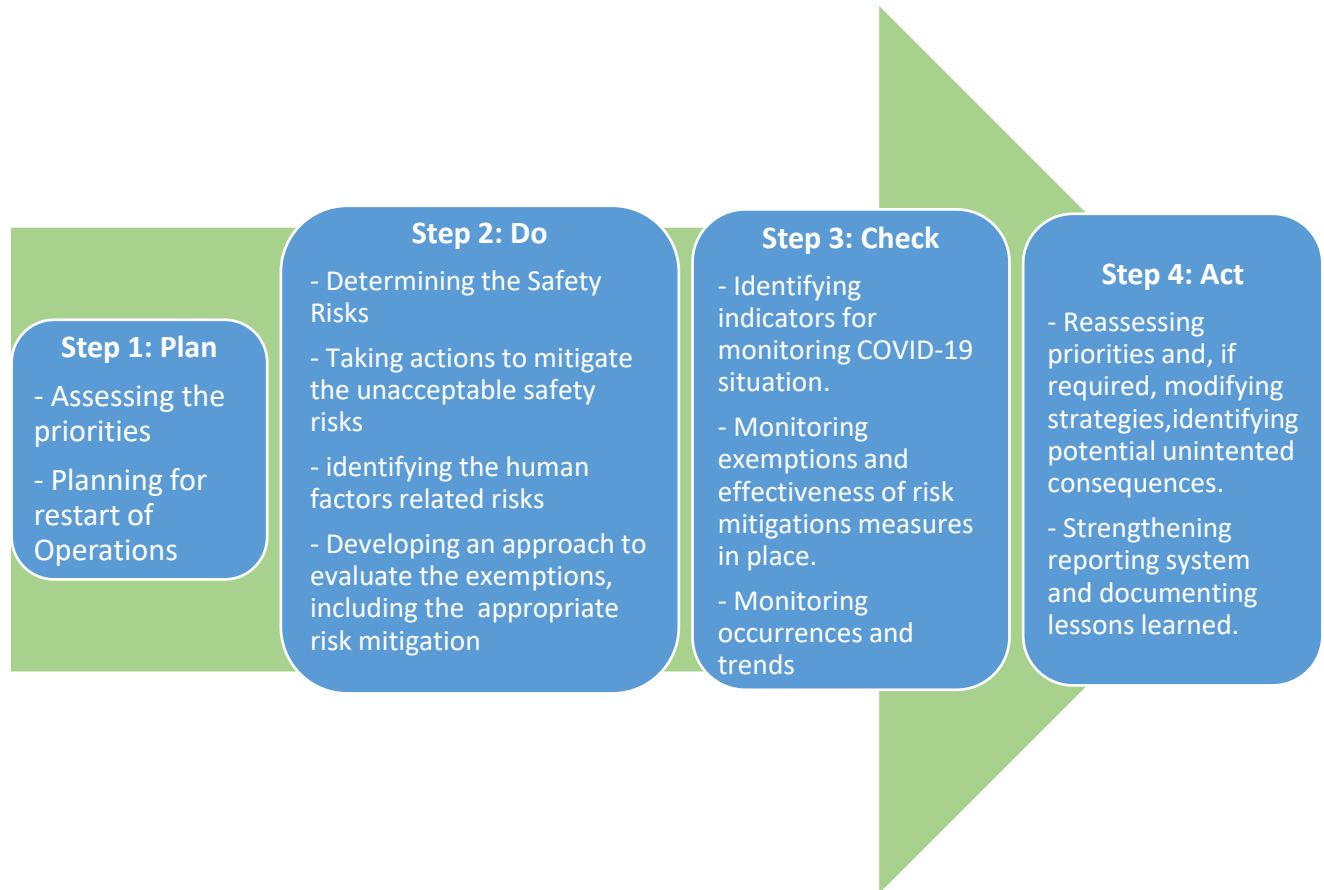
Suggested data and information to collect and analyse to support organizational safety risk management are as follows:

- a. Data on the current COVID-19 including absolute and relative rates:
 - number of cases, considering active and recovered
 - number of deaths reported
 - number of tests conducted as per State policies
 - expected projections
 - freedom to travel, immigration and customs restrictions for destinations
 - quarantine of passengers and crews
 - availability of competent personnel and resulting capacity to provide services (considering those with underlying health conditions or are self-isolating)
 - remote working capabilities including flexible access to equipment
- b. Impacted operational personnel according to PELR— Personnel Licensing Requirements, (air traffic controllers, Air Traffic Safety Electronic Personnel, pilots, cabin crew, aircraft maintenance engineers, flight operations officers/flight dispatchers, etc.)

- number and due date of licenses
 - due date of medical certificates for crew members
 - impact on crew training and checking (i.e. recency of experience, license proficiency check, operator proficiency check)
 - recurrent mandatory training related to special operations
 - years of experience of professionals
- c. Continuity of flight operations
- number and due date of approvals and certificates
 - maintenance issues such as short-term and long-term storage of aircrafts, preservation and de-preservation of aircraft engines continuing airworthiness management of aircrafts, fuel system management, lack of spare parts, components due, maintenance inspection due expiring airworthiness certificates etc.
 - Number of exemptions in place
 - availability of resources (in-house or contracted) to support activities such as preparation of aircraft for flight, reconfiguration and affecting mass and balance of the aircraft, maintenance and regular disinfection of aircraft
- d. Exceptional operational considerations related to flight time limitations, flight duty periods and fatigue, accommodation facilities and transportation for crew, human factor aspects, etc.
- e. Operational status of the Air Navigation Services (ANS) provision and limitations
- availability of Communications, Navigation, and Surveillance (CNS) services
 - availability of Air Traffic Control (ATC) services and management
 - connectivity with global systems, supporting centres and meteorological offices
 - contingency planning affecting operations (airspace limitations, capacity reduction)
 - status of ATC unit/facilities (availability, limited time of operations, change or transfer of units/facilities)
- f. Aerodromes and infrastructure availability
- current movements by airport
 - aircraft parking positions available including the use of other paved surfaces (to be avoided, where possible)
 - due maintenance of navigation or airport equipment
 - location of parked aircrafts where maintenance or storage procedures could occur under restrictions
 - availability of critical services (handling, catering, fueling, medical, immigration, customs, public health, security etc.)

Chapter 5. Application of Safety Management Principles

5.1 The decision-making process involves assessing the COVID-19 situation and the collection and analysis of available data and information within the organization. The following provides a safety risk management approach using the plan-do-check-act (PDCA) cycle for managing aviation safety risks during the pandemic. The safety management principles as described in this Chapter, can be applied by service providers at different levels of SMS implementation.



Step 1: PLAN

a. Assessing the priorities within the organization

- Service Providers should identify, prioritize, and manage their safety risks more effectively. Some operations may change due to travel restrictions, the increased demand for the transport of cargo, etc. As a result, service providers will have to shift their operations to respond (e.g. maintenance organizations will focus on storage and maintenance of parked aircraft, aerodrome service providers may focus on limitation in aircraft parking space and, potentially, taxiways and runways due to the high number of

grounded aircraft, air navigation service providers may focus on navigation aids' status including the validity of the flight checks/inspections.)

- The pandemic will also impact many aspects that should also be considered, such as safety culture, people behaviours, the reporting system, budgets for training, SMS effectiveness, etc. The senior management of organizations should also consider these aspects while going through the pandemic and planning to restarting operations. Above all, the pandemic will result into a revised approach in balancing production and protection posing a greater challenge to the management.
- This will require coordination with CAAN and industry and plan to prioritize activities and resources. The analysis of data collected should be used to support the management of resources. Service providers with the support of CAAN should establish a strategic plan with a timeline that supports the management of the next steps.

b. Planning for the restart of operations

- Even at an early stage, planning for the restart of operations will help to plan resources and manage the limited capacity of service providers. This will require coordination and communication with CAAN and public health authorities based on forecasts and projections. This would include providing CAAN with detailed plans for restarting operations, which would be agreed by the CAAN. It is expected that Service Providers will apply a phased plan to restart operations to rebuild experience and confidence in the operation.
- Service providers should use a combination of their Emergency Response Plan (ERP) and their management of change procedures to restart operations.

Step2: DO

a. Determining the specific aviation safety risks for the organization

- Service providers should apply a safety risk management approach, through the analysis of available data collected to understand the context, and specific hazards and risks caused by the pandemic on the aviation system. Some organizations may have to rely on subject matter expert opinion from both within the organization and CAAN if there is only limited data available.

- This should include analysing the hazards and safety risks related to the service providers' capabilities and resources including technical, human and other factors. It is important to consider the hazards and safety risks at the different stages of the pandemic as they will vary at each stage.
- Service providers should carry out safety risk assessments to identify the significant safety risks, identify mitigation actions needed and prioritize those actions. When carrying out any safety risk assessment organizations should ensure that all the relevant departments are involved as some safety risks will overlap different departments.
- This should consider the impact of social distancing, reducing contact between individuals, use of PPE, overcrowded environments or environments with poor ventilation.
- For Airline Operators this will require individual risk assessments for each route that should consider the risk of COVID-19 being spread to airline staff and to passengers.

b. Taking action to manage and mitigate unacceptable safety risks

- Once an understanding of the safety risks has been identified, organizations should decide on any actions it should take to manage those risks during the pandemic. This would also mean the use of exemptions together with steps such as, designation of alternate aerodromes, enabling the acceleration of processes such as NOTAM publication. Similarly, safety risks may also surface up in the form of any significant change in the organization due to the adversities brought about by the pandemic. Significant change in working procedures, equipment (loss or addition) and key personnel should not be taken for granted as a byproduct of the pandemic but rather be managed well identifying all the areas which may be exposed to risk as a consequence of such change.
- Having a better understanding of the safety risks will make it easier for organizations to prioritize activities. The operators, if they feel this could be beneficial with respect to their reduced manpower, could request for a simpler and expeditious process for obtaining permission to rescue, relief and repatriation flight.
- Mitigation actions should consider:
 - increasing capacity through the availability of additional staff, aircraft and equipment.
 - Crews and staff being kept in small teams (bubbles)

- Increased ventilation in buildings and on aircraft
- Controlled boarding and disembarking of passengers on aircraft
- Reduced physical contact where possible at check in and on board aircraft
- The use of face masks for all airport staff, crew and passengers

c. Identifying human factors related risks

- It is important to recognize that there will be a significant impact on the people working within the aviation community. This is likely to continue and possibly change once operations are restarted. Organizations should address this risk with involvement of the senior management to determine how they are managing the impact on its people and the safety culture of the organization. This includes the risk of errors due to distractions, stress, fatigue, staff or relatives who are sick, unfamiliarity with changing tasks, extended working hours, competing priorities, etc.
- Safety reporting should be encouraged for all staff on any safety issues identified as part of the restart activities. This should include hazards and safety issues related to aviation safety and public health through the spread of COVID-19 infection.

d. Developing an approach for applying exemptions, including the appropriate risk mitigations

- Requests for exemptions should be applied on a case-by-case basis and accompanied by a detailed safety risk assessment and proposals for additional risk mitigation to be applied to reduce the safety risk considering the unique activities and different safety risks of the organization.
- The risk related to exemptions with accompanying mitigations accepted during this period, need to be clearly documented by service providers.
- It is the responsibility of the Service Provider to manage any exemptions and this should consider multiple exemptions on the same operation or activity.

Step3: CHECK

a. Identifying indicators for monitoring the COVID-19 situation

- Service providers should establish indicators that are specific to managing the safety risks resulting from COVID-19 and the associated long-term impacts to the aviation system. These should focus on the availability of resources and the effectiveness of risk controls. Safety data and information should be collected using existing occurrence reporting systems and other systems, if available, to monitor indicators.
- Existing Safety Performance Indicators (SPIs) should continue to be monitored but there should be recognition that any trends, targets and alert levels may not be statistically valid as a result in the reduction of operations.

b. Monitoring exemptions and the effectiveness of safety risk mitigations in place

- Service providers should hold regular meetings with CAAN and other organizations to discuss proposals, and to share challenges and lessons learned. This should also include the agreement of proposed actions to measure and monitor the effectiveness of safety risk mitigations in place. This will support potential future extensions and eventual termination (upon restart of the aviation system).
- SPIs should consider the impact and effectiveness of any exemption(s) granted, including deadlines and extensions. There should also be means to monitor exemptions to check that the expiry dates have not been exceeded and if the required safety risk mitigations are in place. This includes follow-up actions once operations have been restarted.

c. Monitoring of occurrences and trends

- This process will have a significant impact on how service providers manage occurrences and monitors them for trends, which may require a more detailed review of individual occurrences as trends may be misleading due to the change of operations. This may also delay the speed at which occurrences are reported to CAAN and closed by the service provider.

Step 4: Act

a. Reassessing priorities and, if required, modifying the strategy, identifying potential unintended consequences

- Throughout this period the activities need to be continuously monitored as situations can change rapidly. Service providers should review and update their understanding of their safety risks on a continuous basis This would benefit from a management team that will monitor the situation and can make decisions if a change in strategy is needed.

- The Safety Action Group (SAG) could carry out these activities.

b. Reporting systems and documenting lessons learnt

- Service providers should share lessons learnt, even though they are going through challenging times with CAAN and other organizations. It is important that the reporting systems remain in place and in use, helping organizations collect data that may be of value to review as the operations restart. Communication channels that are already in place need to be used to the fullest. Forums such as National Aviation Safety Teams (NASTs) can be very beneficial in such a case. There may even be a need to reenergize reporting systems through a safety promotion campaign. Service providers should document the lessons learnt in the SMS documentation system.
- It is important that the service providers record key meeting minutes and decisions taken when applying the safety management principles described in this guidance. Once the pandemic is over, organizations should capitalize on their efforts to apply lessons learned during the COVID-19 pandemic to continue building on their SMS implementation, making further progress towards addressing contingency planning and improving the effectiveness of their safety management functions.

REPEAT THE PDCA CYCLE

Safety risk management is a continuous activity, making the PDCA cycle useful throughout an infectious disease outbreak. During the evolution of this pandemic, risks will change and the initial plans and actions will need to be monitored to ensure that they remain current and appropriate. This may be as a result of new safety data and information becoming available. This could lead to adapting what is being monitored and result in different actions being taken. This also enables the lessons learnt to be fed back into the safety risk management processes and activities.

Appendix 1

Aviation Operations Resumption Activity-List

Service providers are required to fill up the checklist and submit to CAAN before restarting operations. If CAAN considers the checklist has been filled up properly and all the provisions of checklist are satisfied to ensure the operator is safe and capable to restart the operations, the permission to restart of operations could be granted.

Aviation Operations Resumption Activity-List		
Name of Operator:		
S.N.	Particulars	Remarks
1.	Development of SOP to operate during COVID-19 pandemic. Restart plans including availability of equipment, aircraft and staff.	
2.	Briefing of SOP to all employees	
3.	Testing and validation of SOP to ensure it is workable and effective.	
4.	Identification of safety priorities/risks induced by Covid-19, considering (as applicable): <ul style="list-style-type: none">- cases of all exemptions/alleviations- human factors- effectiveness of training provided- effect on output due to reduced collaboration and communication.- reduced adherence to existing procedures- reduced performance due to not having sufficient guidance, procedures related to pandemic.- postponement of ERPs drills.- Possibility of aircraft not being airworthy due to long time grounding.	
5.	Documentation of safety risk management of all unacceptable risks including all exemptions.	
6.	Status of implementation of all safety measures put in place while managing the unacceptable risks including all exemptions.	
7.	List of significant change in the organization during the COVID-19 period and Management of Change (MOC) with respect to the changes.	
8.	Training of staffs to identify and manage unruly behaviours.	
9.	Retention and/or readily accessibility of key safety personnel.	