

COVID-19: ANS RESTART AND RECOVERY GUIDE





Introduction

Today our industry faces an unprecedented challenge. Air traffic has been reduced to levels not seen since the 1950s in most regions of the globe due to travel restrictions put in place to help control the spread of the COVID-19 pandemic. Because of the reason for the decline, much of the focus of discussions related to the restart of the aviation industry has necessarily been preoccupied with new health screening measures and passenger facilitation issues. These discussions are critical to states having the confidence to lift restrictions and for passengers to be confident they are safe at airports and in the air.

In many respects ATM is not restarting. It never shut down. In all regions of the globe air navigation service providers (ANSPs) kept the airspace open for repatriation flights, cargo and other essential traffic while simultaneously implementing measures to protect staff and ensure operational continuity. I want to thank each and every one of you for the extraordinary steps you took to maintain safe operations throughout this crisis.

As traffic restrictions begin to lift and parked aircraft start operating again, ANSPs must be ready to provide a service in what is likely to be a unique demand environment with variable traffic levels, while continuing to ensure operational continuity and protecting staff from infection.

The purpose of this document is to examine and explore operational and safety considerations for ANSPs as the aviation industry enters its restart and recovery phases. I hope you find it useful.

Simon Hocquard
Director General, CANSO

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Measures to Protect Employee Health and Wellness

Reducing COVID-19 Infection Risk

CANSO's earlier publication, entitled COVID-19: Ensuring Continuity of ATS Service Globally, covered the three most important measures to mitigate the potential spread of viruses like COVID-19; workplace cleanliness, social distancing and social responsibility.

- 1. Workplace cleanliness includes increasing the facility and workstation cleaning frequency; establishing a process for deep cleaning of the facility on a periodic basis; providing suitable cleaning materials, including rubber gloves, so ATCOs and other essential staff can clean their workstations and individual headsets; and making hand sanitiser readily available throughout the facility. Additionally, increasing the ventilation and air filtering in ops rooms and/or other places where staff spend longer periods of time has been recognised as a major factor in reducing virus spread and infection.
- 2. Effective social distancing measures include those measures aimed at reducing exposure risk by limiting the number of people essential employees come into contact with or providing for effective distance so as to limit risk. This may include not allowing non-essential visits to the facility; deferring non-essential training for operational personnel; segregation of incoming and outgoing operational teams and increasing the space between ATC workstations (if possible). This also may include temporarily reducing or eliminating places where staff may regularly congregate, such as break rooms, coffee facilities and dining areas.
- 3. Social responsibility measures include taking individual temperatures; washing hands regularly; adjusting personal travel plans; and staying at home if individuals feel unwell.

While each operational environment is different, most air traffic control towers and control rooms are configured in such a way that operational positions are in close proximity, making social distancing a challenge. Maintaining the recommend six feet (two metres) of distance between individuals may not be possible for air traffic controllers on position

and controlling live traffic. To aid in this, some ANSPs have installed floor markings in the control room to delineate the needed space as well as installing plexiglas dividers between operational sectors. However, as traffic levels begin to increase, this can be especially difficult to manage as corresponding increases in required staff are needed to safely conduct operations. The use of remote facilities where available, or back-up facilities has in some instances allowed for increased separation of staff.

The use of facial coverings to help prevent the spread of disease has been a topic of evolving guidance during the COVID-19 pandemic. The World Health Organization (WHO) issued updated guidance on 5 June 2020 regarding the use of masks to advise that to prevent COVID-19 transmission effectively in areas of community transmission; governments should encourage the general public to wear masks in specific situations and settings as part of a comprehensive approach.

World Health Organization:

Advice on the use of masks in the context of COVID-19

Utilising facial coverings can be problematic in industries or professions that rely on effective communication (such as ATC, pilots, dispatchers, etc). Due to the potential of face coverings affecting radio transmissions and the inherit risk this poses, some international organisations such as IATA and IFALPA are only advocating for facial coverings while flight deck crew are transiting between the terminal and aircraft, and for removing them once the cockpit door is secure. Operational managers should be aware of advice from local public health agencies and work with their labour partners to determine an appropriate policy for facial coverings in operational facilities where social distancing may not be possible.

In facilities which are located near or within the airport terminal, such as a control tower which requires staff to transit through the terminal to access the tower, staff should be encouraged to wear masks while in public spaces. Local coordination with the airport may be undertaken to provide for segregated entrance/ egress where possible that limits exposure risk for essential staff.

Rostering is an important aspect to running a successful operation during normal periods of traffic where capacity and demand can be predicted based on historical data. That said, during this unique period where ANSPs are transitioning from sustained low levels of traffic to variable increasing demand while physical distancing requirements remain necessary, rostering becomes even more important. Many ANSPs have had significant success with the implementation of a team roster, or crew scheduling approach in which small teams only work shifts with their respective team members to reduce facility exposure and limit their contacts with other operational staff.

Reference:

Review of potential hazards associated with recovery to normal air traffic services (ATS) following disruptions resulting from the COVID-19 pandemic.

Other Employee Wellness Considerations

Employees are one of the most important assets of your organisation. It is important to be conscious of the fact that employees are likely experiencing different levels of stress related to the pandemic and their own personal situations. This could be due to fear for their health or that of their family members, being socially disconnected due to working from home, or stress related to an uncertain future, or other factors.

The workplace has changed and employees may be facing different volumes of work, or work pressures and social spaces like cafeterias, common lounges or workout facilities may be closed for sanitation purposes.

Proactive, accurate, consistent and honest communication with employees is one of the best tools available and will help employees understand the context of why internal protocols and measures are in place.

- External: What are the imposed national rules and regulations by governments and public health authorities (communicate via links to national webpages or summary of applicable main topics)
- Internal: What is the impact of those restrictions or relaxations from an operational, safety, finance and HR perspective; what is the new normal; how to keep employees safe at work; how has the company's short term and long term strategy changed?

Remote Workers

Many ANSPs are resuming activities according to a phased approach that will involve many employees continuing to work from home. With many nonessential personnel likely to continue to work remotely, or to return to the workplace only part-time, social contacts are less than usual. Each person behaves different in this extraordinary situation due to various factors. This creates new challenges for managers and human resource departments, both because of the changed work environment and because employees may need to be more closely monitored.

Organisations should determine how they are managing the potential impact on their employees and supporting their managers in this task. Regular staff checks will make it possible to identify and address potential issues early. Guidance should be provided to managers/supervisors to assist them with managing and supporting their teams. In addition to regular team meetings (via phone or video) personal outreach to individual team members is recommended. It is not only showing the recognition and appreciation of the employer it is also acknowledging the circumstances people are in which encourages flexibility of employees.

Communication should be open and transparent and conversations with employees should deal with the following:

- Organisational measures (long-and short term) and personal short term implications
- Remote working capabilities (functionality of IT system, remote office conditions and requirements)
- Return to office plan and policies
- Financial issues including any adjustments in pay or primary and secondary benefits
- Productivity, continuation of work as usual or increased responsibilities, availability of colleagues, changing tasks, extended working hours, competing priorities
- Travel to and from work
- Health condition mental and physical health and well being – support programs available
- Emotions and symptoms of stress, anxiety, distractions, concerns, fatigue, unfamiliarity

- Private-work balance
- Recommendation to stay mentally and physically healthy
- Ideas for improvements to stimulate innovation and change of mind-set

Staff conditions need to be monitored and outreach may need to be repeated depending on the duration of the recovery and any potential second wave. Following the evaluation, and depending on employees situation, the involvement of HR might be required to determine if follow up is needed.

The information and data collected through informing, connecting and engaging with your workforce provides useful insights. After analysing this information organisations can take actions where necessary in order to offer a mentally and physically healthy work environment to continue providing the required ANS by competent personnel when traffic is returning.

Safety, our top priority

The restart of aviation activity following a lengthy period of low traffic levels presents a number of possible safety hazards for airports, airlines, ANSPs and others in the industry. The reduction of traffic levels and the corresponding reduction in staffing necessary to manage the operation have brought many latent safety risks to the surface. Periods of low traffic are normal in the ATC environment regardless of location; however, they are usually contained to certain hours. These are not new safety risks; they have been a normal part of the job for quite some time and have been successfully identified and effectively managed. Some of the more prominent risks in question are monotony, boredom and reduced vigilance.

Monotony can be defined as a gradually developing state of reduced activation, mainly associated with drowsiness, tiredness, decreases in and fluctuations with performance, reductions in adaptability and responsiveness. Monotony can be found in long, uniform, repetitive tasks or activities (such as data input), and symptoms usually develop more slowly than instances of reduced vigilance. Recovery from this state does not necessarily occur immediately after a change in environment or task.

From a conventional standpoint, **boredom** is an emotional and occasionally mental state experienced when an individual is left without anything in particular to do or feels that a tasking or work session is dull or tedious. There is no universally accepted definition of boredom, however some researchers argue it is not simply another name for depression or apathy. Rather, it can be viewed as a specific mental state that people find unpleasant—a lack of stimulation that leaves them craving relief.

Vigilance is a term that refers to an individual's ability to pay close and continuous attention to a field of stimulation for a period of time, watchful for any particular changing circumstances. Reduced vigilance is a state with diminished activation and detection performance mainly associated with monitoring tasks offering only little variation. From a risk perspective, when workload is very high, an ATCO's attention can be overextended and therefore they are more likely to miss things. A similar situation can exist when the workload is very low, for example, during a quiet night shift or during periods of reduced traffic (such as what is currently being experienced due to travel restrictions as a result of the pandemic).

Monotony and reduced vigilance can be differentiated with respect to the circumstances of their causal conditions, not with respect to their effects on performance and symptoms of alertness. Monotony can be found in uniform tasks with a high degree of repetitiveness.

Stress is something we as humans all deal with and is the body's reaction to challenges or demands. It is a feeling of emotional or physical tension that may affect how individuals feel mentally and physically. Stress is everywhere and in small doses can be beneficial. However, too much stress, in both quantities and over extended durations, can wear individuals down and make them sick both mentally and physically.

The first step in controlling a stress response is to recognise the symptoms, which can be difficult to do in the moment. From an individual perspective, during stress response, an individual's heart rate increases, breathing quickens, muscles tighten and blood pressure rises. Obviously these signs are internal in nature, and so they are difficult for a colleague or

supervisor to detect. However, there are emotional and behavioral clues that will help identify when someone is experiencing high stress levels. These may include becoming easily agitated, frustrated or moody, avoiding others, nervous behaviours (nail biting, fidgeting, pacing), forgetfulness, disorganisation, inability to focus, poor judgement and increased risk taking. Understanding and identifying the signs of increased stress can help both staff and supervisors be proactive and intervene before situations become unmanageable.

The following documents examine specific COVID-19 related hazards and mitigations for ATS and provide guidance for civil aviation authorities on the management of aviation safety risks.

Review of potential hazards associated with recovery to normal air traffic services (ATS) following disruptions resulting from the COVID-19 pandemic.

Handbook for CAAs on the management of aviation safety risks related to COVID-19

Mitigating Human Factors Hazards in the context of the operating environment during and post COVID-19

The resources below are provided for more information on stress, monotony, boredom and reduced vigilance:

IFATCA: Coping with COVID-19

<u>EUROCONTROL</u>: Monotony in air traffic control - contributing factors and mitigation strategies

SKY brary: Vigilance in ATM

Scientific American: Why Boredom Is Anything but Boring

Maintaining Staff Competencies and Skills

As traffic increases, it is important that ANSPs be ready with sufficient resources in place and staff that are prepared for rising and variable traffic levels in what may be a less predictable environment.

The jobs that support the provision of air navigation services are highly technical in nature with extensive training and licencing requirements. While employees may meet technical currency requirements, it is important to consider the effect of employees not having managed complex traffic environments for an extended amount of time.

ATCOs may not be able to maintain their operational skills during COVID-19 lockdown period due to:

- limited number of ATCO duty shifts and hours in position as a result of low traffic levels, and
- exposure to different traffic patterns, modes of operations or aircraft with different performance specifications than normal.

The degrading of skills, coupled with the stress effects of the pandemic can have significant impacts. A recent white paper from the Human Performance Research division of Austro Control examined the response to significant loss of traffic, coupled with health and welfare responsibilities to impose physical distancing amongst technical and operational staff. The paper was an exploratory investigation to look at skill degradation across the organisation during reduced services as a result of the COVID-19 pandemic.

Reference:

The Risk of Skill Degradation During the COVID-19
Crisis for Austro Control Operational and Technical
Staff

The paper identified evidence to support the theory that highly technical skills will fade over time depending on the type of skill and other individual differences. This fade will usually start to take effect around three months. Recently learned skills that have not had a chance to embed (such as new procedures or new technical skills) can start to recede even earlier, in as early as two weeks to two months. When more complex procedures with many dimensions and/ or multiple variables are not used as well as more obscure technical procedures such as applying traffic management initiatives or deviations due to weather, skill degradation can occur in the three to six month timeframe.

Recommended mitigations to help offset skill decay and maintain performance include:

- Awareness so that staff are conscious of this phenomenon
- Supervisors taking an active role in listening to staff about what skills are not being used during low traffic periods so that tasks utilising those skills are more closely watched
- Blending the experience amongst rosters to maintain balance
- Utilising refresher training to maintain awareness
- Proficiency checks in training simulations

In addition, special attention should be taken to ensure that air traffic controllers after an extended period of absence are sufficiently familiar with any changes in airspace and/or procedures that have been implemented or new rules put in place during the pandemic.

The hazard related to the ability of ATCOs to adapt to a high traffic demand after a lengthy period of low traffic is of particular concern. If traffic recovery is gradual, this steady day-to-day increase could help in refreshing competences. However ANSPs should consider whether training, including simulation practice is necessary, particularly with respect to the least common situations (including unusual runway configurations) and high demand. A thorough assessment of how to best provide simulation given social distancing requirements and remote training alternatives should be done. This assessment should consider opportunities to do ongoing training given that there will likely be months of reduced demand.

If traffic increases are not gradual and sharper increases are expected to occur, extra attention should be paid to maintaining staff competency at higher traffic levels. Digital and remote training options should be utilised if refresher simulation is not possible, and increased supervisory function should be activated. Supervisors should strive to maintain a distraction free environment and to observe the traffic situation closely and be prepared to support ATCOs with appropriate measures when required in recognition that they may reach their personal capacity limitation earlier than before.

Maintaining Competency for ATCOs and Dispatchers during and post COVID-19

DFS Handout - When Traffic Picks Up Again

Making Simulation Opportunities Available

CANSO has collaborated with Micro Nav to make Micro Nav's BEST ATC Simulator available free of charge to CANSO's ANSP members until the end of November 2020. The BEST ATC Simulator will be made available as a cloud-based simulation platform that enables training with necessary equipment limited to a laptop/PC, internet connection and headset. The platform supports remote operation, enabling ATCOs to practice, even while at home, if that is what is desired.

The availability of this simulation tool will aid ANSPs in their important efforts to help air traffic controllers maintain their skills and their confidence at higher traffic levels, even while social distancing requirements may limit other simulation activities.

ANSPs who enroll in this initiative will receive online training from Micro Nav on the platform itself and to help them customise the simulations to reflect their own airspace. Ongoing technical support will also be available.

ANSPs looking for more information or who are interested in participating should contact their CANSO Region Director or email info@canso.org

Other Training Activities

Many ANSPs have used ATCO and ATSEP downtime resulting from reduced traffic levels to complete recurrent training activities, particularly where such training is available in an online format. This serves to make effective use of time during which the number of required operational shifts is reduced, helps to maintain staff skills, and potentially reduces the need for recurrent training to be undertaken as traffic begins to increase.

The use of online live virtual teaching or computer based self study modules are effective ways to continue important training activities while minimising exposure risks from classroom training.

Where bringing students together for classroom based training is the only option, social distancing and sanitation measures should be implemented and use of masks should be considered in accordance with local public health guidelines.

On job training (OJT) activities can be the most challenging to continue given the unavoidable proximity between student and instructor. For this reason many ANSPs have discontinued OJT for a period. Consultation with unions or other employee representatives and public health authorities on potential means of restarting OJT may be necessary depending on the particular staffing situation the ANSP is facing.

It is worth noting the that reduced ATCO demand as a result of lower traffic volumes coupled with the pause in OJT activities, creates the potential for future roster deficiencies due to lack of both qualified and experienced personnel. Simulations are an important part of ab initio training but the remaining skills and abilities are learned through actually doing the job in real world conditions. Many ANSPs are thinking outside the box and working with their employees to find ways to continue these critical activities to meet the future demands, such as procuring headsets with longer cords to accommodate social distancing, increasing quality reviews of taped live sessions with trainees and increasing simulation activities to accommodate higher traffic volumes and complexities.

Traffic and Resource Management

ANSPs took action to reduce ATCO shifts in operational facilities as traffic fell. In many instances lower traffic levels enabled the implementation of crew shift structures to reduce the risk of infection spread amongst staff by isolating staff with a specific team/crew.

As travel restrictions ease in your region, it will be important to closely monitor growing traffic to ensure that additional shifts are added to your roster to enable the safe management of traffic levels. Some variability is expected in traffic volumes as parked aircraft are repositioned and undergo necessary maintenance and as airlines add flights to test demand for specific routes and even potentially as resurgence in viral spread hits some areas

Unpredictable Air Traffic Volumes

As restrictions on air traffic are lifted, daily air traffic volumes are likely to experience increased variability. Aircraft maintenance requirements, repositioning flights and other factors will generate non-traditional flows and non-routine operations. Airlines may initially schedule flights that they later cancel due to limited passenger demand. In in the initial period of the restart in particular, beyond a timeline of 7-10 days, airline schedules may not be very accurate. This poses a significant challenge for operational planning of capacity and resources.

During the recovery phase, there is a likelihood of mismatches in capacity, including tactical air traffic flow management (ATFM) measures for planned traffic demand, and actual traffic demand. This can be attributed to:

- Extended absence of large number of personnel
- Different pace of capacity recovery by ANSPs
 - ATS: mainly adaptation of manning (roster adaptation)
 - ATM: restarting AMC activities based on capacity demands
 - ATF(C)M: View on capacity route availability and need of capacity in a later phase of the build-up
- Different pace in the recovery of air travel demand

Traffic levels should be regularly monitored. Workload associated with general aviation should be considered in these assessments. Sharp increases in traffic might require flow management measures to prevent sectors from overloads. Tactical updates to the planned sector configurations and ATFM measures may be required.

Demand Prediction Tools

Demand prediction tools provide a reliable expectation of the number of aircraft anticipated in a specific airspace and to and from airports. They are extremely useful for ensuring that staffing levels or available capacity will meet demand, or providing and advance indication that air traffic flow management measures might be required. Understanding predicted demand facilitates planning and decision-making and supports the goals and processes for CDM and common situational awareness – each of which is especially important as the industry works to recover from the air traffic impacts of the pandemic.

For those ANSPs that do not have demand prediction tools, CANSO is collaborating with Metron Aviation to make available their Horizon tool for free to assist air navigation service providers during the recovery phase when traffic volumes and patterns will be less predictable than normal. The tool uses both flight plans and surveillance data to provide specific tailored demand predictions for arriving, departing and en route traffic. ANSPs providing ATS message handling system (AMHS) data will have web-based access through secure authorised credentials to the Horizon tool for free until 31 October 2020.

For more information on the CANSO-Metron collaboration and how to participate contact the CANSO Region Director for your region or email info@canso.org.

Ensuring Operational Efficiency for Air Traffic

Operators have faced operational challenges during COVID-19 pandemic related to: long processes for obtaining overflight permissions; the designation of alternate airports; clear and timely publication of NOTAMs and aeronautical information; and User Preferred Routes (UPRs) / optimised routings.

Given that reduced traffic levels are expected for some time, ANSPs should review restrictions and other traffic management initiatives to determine whether they continue to be necessary and fit for purpose in order to ensure the provision of safe and efficient service.

Many changes in airport and passenger boarding procedures are being implemented in conjunction with the lifting of travel restrictions. ANSPs should be aware that these changes may affect gate turnaround times or cause other difficulties with normal airport operations. Airlines are generally factoring this additional ground time into their schedules. ANSPs should recognise that this additional gate time may affect overall airport capacity and that on-time-performance metrics are likely to be affected.

Service to Cargo Flights

During the severe downturn in air traffic, cargo operations represented a significant percentage of the traffic operating. In some airspaces cargo made up as much as fifty percent of air traffic and cargo capacity in passenger aircraft shifted to all cargo flights. In order to support pandemic response, several ANSPs implemented procedures for the prioritisation of cargo flights carrying healthcare related materials associated with the pandemic (e.g. PPE, ventilators, medicine).

On 18 March 2020, ICAO published a State Letter (EC 6/3-20/46) which reminded States and stakeholders of the importance of following existing regulations and guidance, in particular the relevant standards contained within Annexes.

Annex 9 – Facilitation: These are provisions to expedite the release and clearance of goods carried by air, with a focus on Standard 4.7, regarding use of modern screening or examination techniques for examination of goods, and Standard 8.8 for the facilitation of entry, departure and transit of aircraft engaged in relief flights and to implement all measures to facilitate the receipt of aid, including overflight and landing rights and necessary privileges and immunities for relief units, in an effort to avoid disruption.

There is a continued need to ensure sustainability of the global air cargo supply chain and the availability of essential goods needed to help reduce the spreading of COVID-19. As traffic restrictions are lifted and overall traffic levels rise, ANSPs must assess their ability to continue to give operational priority to essential cargo operations.

Regulatory Coordination

Many ANSPs have been granted regulatory exemptions or extensions in recognition of particular difficulties encountered during the pandemic, such as difficulties renewing medical certifications.

In ICAO State letter 2020/50 it states:

Service providers and aviation personnel are facing different challenges depending on where their State is with regard to the COVID-19 pandemic. There are approximately 650 000 licensed personnel supporting commercial air transport worldwide. If a fraction of those personnel is affected by the pandemic measures, the potential for the disruption may be significant. In order to facilitate safe operations during these difficult times, I encourage 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).

During the period of these contingency measures, particular attention should be given to the Standards and Recommended Practices (SARPs) related to certificates and licenses. In this regard, States are reminded of their obligations under Article 38 of the Convention to notify ICAO of any differences that may arise.

As ATM operations increase, we recommend States and ANSPs coordinate appropriate actions and timeframes regarding renewal of licenses and certificates and the commencement of oversight activities. Alleviation measures that have been granted must be kept updated by States with ICAO in the COVID-19 Related Contingency Related (CCRD) subsystem of the Electronic Filing of Differences (EFOD) system.

ATM Maintenance

While many ANSPs have been able to take advantage of the low traffic densities to undertake various infrastructure maintenance and improvements, others have restricted maintenance to only critical failures or those activities required to ensure regulatory compliance where exemptions cannot be obtained for such requirements. Flight inspections of instrument approaches and airway procedures may have been delayed and may be overdue.

It is imperative that ANSPs remain aware of the operating status of their ATM infrastructure and maintain up to date NOTAMs on infrastructure or capacity issues. ICAO has provided a template NOTAM text for for consideration by States and to facilitate harmonisation of COVID-19 related.

NOTAM: COVID-19 CDM Procedure

ANSPs are reminded and encouraged to review the certification criteria contained in ICAO Annexes
11 and 14. Additionally, due to the extraordinary circumstances requiring the utilisation of runways and taxiways as aircraft storage, special attention should be paid to the potential encroachment of ILS critical areas.

Collaboration

Airport Collaboration

When an ANSP is included in ramp operations, close cooperation with the airport and airlines is essential to safely transport parked aircraft from temporary parked positions to either gates, ramps or maintenance facilities. As many airports are using taxiways and sometimes even runways to park aircraft it is very important to keep these operations away from active runways and taxiways to prevent incursions. More information on this topic can be found via the ACI Advisory Bulletin regarding mitigating the risks created by overflow aircraft parking.

Close coordination with the airport and local operators will be required if the airport has been used for overflow parking as returning an aircraft to service after long term parking or storage will generate unique requirements. A variety of checks and tests to ensure airworthiness must be performed according to the manufacturer's instructions and regulatory requirements. Some of the parked or stored aircraft will require operational tests such as taxiing, engine ground run-ups and/or check flights.

Collaborative Decision Making

Collaborative decision making (CDM) is an extremely important process in ATM. It is a process for ensuring all stakeholder needs are considered before decisions are made concerning effective air traffic flow management (ATFM) and airport collaborative decision making (A-CDM). CDM enables all members of the

ATM community to collaborate in the decision-making process that ensures the best outcome based on equity and access.

CDM is especially important right now as ANSPs and ATM stakeholders are making operational decisions based on the ever-changing environment.

In preparation for traffic re-start/recovery, all stakeholders should consider the following:

- ANSP capability to handle an increased amount of traffic. This includes the measures taken to ensure continued competency, qualifications and skills of air traffic controllers, as well as adequate staffing
- Status of aerodromes services/facilities and CNS/ATM infrastructure
- Availability of required air navigation services supporting ATM operations
- Agreement between adjacent States/ANSPs on necessary ATM measures/arrangements to be implemented to ensure a safe, smooth and orderly transition to that experienced prior to the COVID-19 pandemic
- Development of regional transition plans for the resumption of operations in coordination with all regional stakeholders that should be based on the data provided by airlines and ANSPs

The sharing of information and coordination at national, cross-border and regional levels between stakeholders provides the following tangible and measurable operational benefits:

- Reduction of unnecessary delays and airborne holding due to, better planning, increased situational awareness and solutions developed via the coordination process
- Reroute flights in collaboration with neighbouring ANSPs, taking into account airspace user needs
- Fuel savings due to better-coordinated tactical air traffic management
- Communicating in a timely manner the impact of special events, contingency and crisis including weather, national disaster, disruption of services, etc
- Advance planning for the events and for postevents recovery
- Optimised implementation of ATFM measures due to improved view of demand and capacity predictions.

CDM/A-CDM/ATFM considerations for discussion include:

- NOTAMs
 - Airport issues Openings/closings parked aircraft
- Anticipated demand information
 - Sector openings
 - Sector capacity
- Traffic management measures
 - Separation constraints
 - Runway capacity issues
- Weather
- Special events
- Military activity
- Equipment outages

CDM is critical for a globally harmonised air transport system. Regular communication between neighboring and regional ANSPs are fundamental to successful ATFM, but become paramount as the industry recovers from the impact of the COVID-19 pandemic. Regular and scheduled coordination between all industry stakeholders is essential to enable discussion on important impacts such as those listed immediately above. At minimum, there should be weekly communication; however, a more frequent consistent approach is recommended and can be accomplished through various means.

Resources:

ICAO: COVID-19 Outbreak Simplified Procedure for Air Traffic Management Collaborative Decision Making and Sharing of Information – Edition 1.0 – May 2020

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