



Safely Navigating the Industry Restart

Bulletin 1

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

1. Background

The operational and financial impact of COVID-19 on the aviation industry is unprecedented. Air travel worldwide almost entirely stopped in April 2020. As of June 7th 2020, flights further reduced by 73% relative to January 1st 2020¹. As air travellers start gaining confidence and travel restrictions are eased, the aviation industry will see varying and changing traffic levels which introduce new patterns of activity across the aviation supply chain. The operating and working environments are expected to change with a shift along several vectors from uncertainty related to flight scheduled to changing procedures and updates imposed by governments and regulators. Every element of the aviation industry will be impacted by this new operational environment.

Many organizations have taken steps to help dispatchers and controllers deal with changes in the physical and psychosocial environment both at work and in their personal lives. However, as this pandemic persists, it will be

important to be proactive and ensure that important information about new and changing constraints and procedures is communicated. Emotional Support and effective interactions among staff members are needed.

Restarting a complex system, such as the aviation system, is not a linear process. While airlines, supply chain actors, regulators, and international organizations are working towards a seamless restart, we expect varying traffic levels, changing conditions on the ground, and different demands and interactions between the flight crew and air traffic control, to have an impact in our plans. In a sense, the restart of aviation will not mean going back to pre COVID-19 operational environment but rather going back to operating in a 'new normal' environment.

COVID-19 continues to have significant impact on staffing, such as;

- a) Variable staff availability due to COVID-19 symptoms;

¹ Source: IATA

- b) Requirements for physical distancing within operational areas;
- c) The furlough of staff; or
- d) Early staff retirement as some organizations adopt new strategies to deliver efficient operations.

The impact on staff in airlines, and the aviation supply chain could lead to a different risk landscape which can, by extension, introduce new operational challenges and safety hazards. Not only will there be new interactions and expectations from the supply chain actors, but in some cases, new system actors will be introduced.

For example, the lack of familiarity with new interactions and new actors or new COVID-19 requirements amongst ATCOs and dispatchers combined with increasing and changing levels of traffic will lead to tasks taking longer, due to initial uncertainty, until experience has been gained. Another example is the impact of job uncertainty on decision making in safety critical functions, such as aircraft dispatch and separating traffic.

In order to better understand the differences that post COVID-19 operations could have on human factors, a webinar was organized on June 4th 2020. The webinar presentations and subsequent discussions were used as a contribution to a safety risk assessment carried out by Civil Air Navigation Services Organization (CANSO), International Federation of Air Traffic Controllers' Association (IFATCA) and International Air Transport Association (IATA). This joint bulletin between the partners highlights key considerations for human factors based on the webinar and the risk assessment.

2. Human Factors Related Events & Hazards

Considering the short, medium, and long-term impacts of COVID-19 on ATCOs and dispatchers, the following events need to be considered by the management of ANSPs and airlines.

2.1 Increased demands and the potential for stress & fatigue

The psychosocial climate in ANSPs and operators will be influenced by concerns about job uncertainty. These concerns will increase the levels of anxiety, and thereby stress, amongst staff of airlines, ANSPs and the whole aviation supply chain. Increased levels of anxiety and stress could have a negative impact on the psychosocial climate in both operational and non-operational functions, which can influence safety critical functions such as air traffic control and aircraft dispatch.

In addition, new stakeholders are expected to be included in operational decision making and tactical strategies. This will lead to new interactions, new system dependencies and additional levels of coordination as we experience varying levels of air traffic. Pre-COVID-19 patterns of work, assumptions and expectations will be different. New dimensions to operational decision making may limit the degrees of freedom in tactical strategies. Changes in staffing levels and working patterns could have an impact on operational staff and negatively impact system capacity.

As air traffic volume increases, ATCOs and airline operational staff (dispatchers and crew) could experience sustained pressure to maintain on time performance in a new and continuously changing operational environment. Turnaround times are expected to increase due to additional safety and health measures associated with COVID-19

operations. However, there could be many factors and unknowns impacting on time performance, from additional ground time at a stop, to reductions in airport capacity due to parked aircraft.

Potential Hazards

1. **Insufficient information about new constraints and procedures**
2. **Reduced reporting of events**
3. **Loss of focus / attention**
4. **Degradation of mental health**

2.1.1 Mitigation Measures

Corporate wellbeing and mental health programs which contribute to a supportive psychosocial climate could suffer from the cost-cutting measures companies and organizations are applying to ensure survivability and financial sustainability throughout the pandemic and beyond. However, a corporate level approach continues to be needed in order to sustain or create a psychosocial climate that supports human factors challenges that ATCOs and dispatchers could face. As the industry recovers from an unprecedented global crisis, empathy will be key for a safe restart of the aviation industry.

	Explore new opportunities for providing wellbeing programs and support
	Regular internal staff briefings and communication that include additional/new procedural requirements of relevance
	Training for managers and supervisors to emphasize the need for empathetic approach to managing teams and performance

	Initiate open dialogue platforms and make available internal tools to staff to report stress, anxiety and other personal challenges they might be facing.
	Initiate peer support programs
	Intensified safety monitoring
	Fatigue and stress awareness and training for operational staff

2.2 Different levels and types of external distractions

With the all the changes the COVID-19 pandemic is bringing to industries, economies, and societies, keeping track of how the pandemic is affecting organizations and individuals can be overwhelming. Because of the type of impact, external stressors and sources of anxiety associated with COVID-19, for example family situation, local economy, etc., are significantly higher. In addition, the emotional and psychological impact of such distractions will lead to a human factors dimension on staff carrying out safety critical as well as non-safety functions. Organizations need to ensure a collaborative work climate that is sensitive to the consequences of the uncertainty that anxieties can introduce.

Potential Hazards

1. **Challenges incorporation information on operational changes into decision making**
2. **Loss of focus and concentration**
3. **Emotional distress from unpleasant news**

2.2.1 Mitigation Measures

In order to ensure that external distractions are minimized, organizations could adopt shift policies to ensure that access to personal cell phone and social media channels is minimized while doing safety critical tasks.

2.3 Change in workload and work environment

The financial impact of COVID-19 on airlines and the aviation supply chain is driving many companies and organizations to implement cost decreases. Most of the cost cutting measures include reduction in staff whether in the form of staff furlough or early retirement of staff. In addition to this having a negative impact on staff morale, it will also radically change the working environment for ATCOs and dispatchers.

The loss of senior staff will have an impact on workload and re-distribution of work amongst a shift. It will also have an impact on the composition of the teams. Loss of experienced staff or "go-to" colleagues will not only impact the level of service or performance but will also impact other team members who lost not only a colleague but a mentor or a reference.

With all current medical advice, it could be expected that physical and social distancing might continue to be required for an extended period of time. Therefore, in the short and medium term, it is expected that teams won't be able to socialize and connect like they used to. Members of the same shift will have to maintain their distance. This influences the dynamic of teams and shifts as well as the morale of individuals.

Potential Hazards

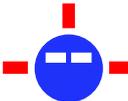
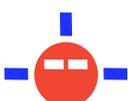
1. **Potential loss of expertise that is needed for a safe and efficient restart and the post-COVID19 transition**
2. **Potential reduction in the confidence of staff who have no exposure to the range of operational decisions or influences in the new operational environment**
3. **Impact on team, unit and organisation morale**
4. **The reduction and or weakening of the buffers and margins in the operation that lead to new and unseen system vulnerabilities that are unknown to ATCOs and Dispatchers**
5. **Increased workload for all staff with a cumulative affect that may lead to higher levels of fatigue and impose system induced threats on staff confidence in the system**

2.3.1 Mitigation Measures

In order to ensure that a diversity of expertise is constituted in a given shift or team, organisations might wish to consider shift rotations of ATCOs or dispatchers that consider balancing experience and skillsets.

In cases when there could be a potential impact on service level, some operational measures can be applied as a mitigation.

	Dynamic staff rostering ensuring diversity of expertise in each shift
	Up-skilling of junior staff and additional training to close skill gaps
	Initiate mentoring programs. Make available "go-to" coaches.

	Where needed apply flow management
	Re-sectorization of airspace / combining sectors, as necessary, to mitigate ATCO availability issues

5. Get Involved

To provide your input and share your view, join one of our up-coming webinars. More details will be available on the following webpages;

- iata.org/en/events/webinars/
- ifatca.org
- canso.org/events

If you have any question or would like more information, please send an email to infrastructure@iata.org.

3. Recommendations

In order to utilize the best practices in this bulletin, it is recommended to use the identified hazards and the example safety risk assessment in **Attachment – A** to conduct an internal safety risk assessment by individual organizations or companies.

4. Additional Resources

1. Flight Safety Foundation (FSF) "Guide to Wellbeing": <https://flightsafety.org/wp-content/uploads/2020/04/Guide-to-Wellbeing.pdf>
2. IFATCA "Coping with COVID-19" Guide: https://www.ifatca.org/wp-content/uploads/documents/guidance-material/ifatca-gm_coping.pdf



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Event	Hazards	Consequence	Existing Controls	Risk Rating	Mitigation Action
		<i>(worst case scenario)</i>			
Constant change in health and operational procedures	<ul style="list-style-type: none"> Increased stress levels due to non-standard operations. Less effective CRM due to procedural changes. Less effective communication. Reduced confidence and situational awareness 	<ul style="list-style-type: none"> Operational inefficiency Injury or loss of life Erosion of SMS Delays Damage to equipment Misinformation provided to personnel Application of wrong procedures 	<ul style="list-style-type: none"> CRM/TRM training Human Factors Program Briefing procedure Information bulletins Briefing medium/tool 	Tolerable (with existing control)	<ul style="list-style-type: none"> Wellbeing programs and support Increased oversight Provide all personnel with related brief and communications Empathetic approach to performance/service level penalties Airline internal communications can be expanded to include COVID-19 restrictions
Pressure, bereavement, tiredness, stress, fatigue, etc.	<ul style="list-style-type: none"> Reduced reporting Complacency Tiredness and reduction in attentiveness Degradation of mental health 	<ul style="list-style-type: none"> Operational inefficiency Accident, incident Erosion of SMS Injury or loss of life 	<ul style="list-style-type: none"> SMS Human Factors Program Fit for duty policy Wellness programs 	Tolerable (with existing control)	<ul style="list-style-type: none"> Wellbeing programs and support Increased oversight Internal briefing Empathetic approach to performance/service level penalties
Increased frequency and volume of external distractions (i.e.: family, politics, economy, health)	<ul style="list-style-type: none"> Reduced focus 	<ul style="list-style-type: none"> Operational inefficiency Accident, incident 	<ul style="list-style-type: none"> Limitation of personal communication devices Break schedule 	Tolerable (with existing control)	<ul style="list-style-type: none"> Wellbeing programs and support Increased oversight Safety promotion Revised break schedule

<p>Change in workload and working environment (i.e: reduced staffing, varying levels of traffic)</p>	<ul style="list-style-type: none"> • Degradation of safety barriers due to insufficient resources to apply normal procedures, oversight • Loss of experienced personnel. • Reduction of situational awareness. • Reduction of performance 	<p>Incident (loss of separation, go around, diversion)</p>	<ul style="list-style-type: none"> • Supervision • Rostering system • Reporting system • Combining sectors • Flow control measures 	<p>Tolerable (with existing control)</p>	<ul style="list-style-type: none"> • Proactive management of workload • Additional Training
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