Public Authority for Civil Aviation

COVID 19 – AVIATION HEALTH SAFETY PROTOCOL

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1 - Introduction

The purpose of this aviation health safety protocol is to provide guidance to airport operators, aircraft operators, as well as other relevant stakeholders, on how to facilitate the safe and gradual restoration of passenger transport. This is subject to the deployment of proportionate and effective measures to protect the health of aviation personnel and passengers, by reducing the risk of COVID-19 transmission in the airport and on board aircraft as much as practicable.

The general situation regarding the COVID-19 pandemic, including the implemented containment measures, the potential risk of being exposed to infected individual(s) and the need to deal with unfamiliar situations in the workplace are likely to have a negative impact on the mental well-being of staff members and passengers. In this context, airport operators and aircraft operators, and, where applicable, other service providers should promote staff members' access to counselling and/or support programmes (where available), and make use of the WHO guidance and any other relevant guidance.

Resuming aerodrome operation is expected to be a gradual process, which will be carried out in 3 levels as detailed in the recovery and business continuity framework for Oman's civil aviation sector – COVID-19:

- **Level 1:** Limited Air Transport Operations
- **Level 2:** Flexible Air Transport Operations
- **Level 3:** Full Scale Normal Air Transport Operations

2 - Anticipated Recovery Air Transport Levels

The recovery plan ends with resuming full scale normal operations of the aviation sector when the Supreme Committee for dealing with COVID-19 announces the return of normality and the appropriate level of international stability is achieved.

3 - Passenger management

For reasons of clarity, this guidance on passenger management is presented in the following sequence: at all times, before arriving at the departure airport, at the airport, on board the aircraft and at the arrival airport.

As indicated, the proposed measures will be regularly evaluated and updated in line with changes in knowledge of the risk of transmission, as well as with the development of other diagnostic or preventive measures.

3.1 At all times

Objective: ***To ensure that passengers arriving at the airport and boarding flights are aware of, and adhere to, the preventive measures put in place in order to ensure, at all times, a safe and healthy environment for travelers, crew members and staff.***

- Passengers should be reminded that physical distancing between individuals **of minimum 1.5 meters should be maintained** as much as is possible in the airport. For the supporting evidence regarding physical distancing.
- The wearing of medical face masks (face masks) **is mandatory** for all passengers and persons within the airport and aircraft, from the moment they enter the terminal building at the departure airport until they exit the terminal building at the destination airport. Exemption to the obligation to wear face masks can be made for instances where otherwise specified, such as during security checks or border control. Children below 6 years old and people having a medical reason for not wearing face masks can also be exempted.
- Passengers should be reminded that typically, face masks should be replaced after being worn for 4 hours, if not advised otherwise by the mask manufacturer, or when becoming wet or soiled, and that they should ensure a sufficient supply of masks adequate for the entire duration of their journey.
- Airport operators and aircraft operators should include information regarding the proper use and removal of masks and the proper way to dispose of used masks in their health safety promotion material. Additionally, airport operators should also consider making possible acquisition of masks should be made possible at airports in case passengers have no access to face masks beforehand.
- Smoking area shall only be used by a maximum of 1 or 2 person(s) depending on the size of the smoking booth.

In addition, passengers should be required to observe the following measures at all times:

- Hand hygiene – by washing with water and soap or, where this is not available, using alcohol based hand sanitising solutions.
- Respiratory etiquette – covering the mouth and nose with a paper towel cover or a flexed elbow when sneezing or coughing, even when wearing a mask.
- Limiting the direct contact (touch) of any surfaces in the airport and on the aircraft to only when necessary.

Airport operators, aircraft operators and other stakeholders in the airport shall provide the necessary personal protective equipment (PPE) to their staff members and ensure that they are trained in the appropriate use of this PPE:

- Staff members who interact with passengers directly (e.g. security check agents, assistants for passengers with reduced mobility, cleaning staff, etc.) should wear a medical face mask and gloves
- Security check agents performing body checks should wear face mask or face shields or suitable alternatives in addition to their masks to further mitigate the risk of droplet inhalation caused by their very close contact with passengers during body-checks.
- Staff members who interact with passengers from behind a protection screen do not have to wear personal protective equipment at all times except face mask to be worn at all times. In addition, if the screens need to have openings for handling documents, passengers should stand away from the counter unless handing in documents and luggage. This may be facilitated with specific floor marking(s), which should be extended to the queue in order to maintain physical distancing.

Notwithstanding the use of PPE, hand hygiene should be reinforced at all times. When gloves are used they should be regularly changed. Not all types of gloves can be disinfected with alcohol-based solution. Some can deteriorate significantly and contribute to contamination. The disinfection of gloves is therefore not recommended. When gloves are worn by staff, operators should remind them that wearing gloves does not protect against the spread of the virus and alert them to the possible false sense of security they may create if parallel measures are not scrupulously followed.

Passengers should be regularly instructed via visual and audio messaging, as well as other appropriate means, to adhere to the preventive measures in place at various levels in the airport and on-board the aircraft, and give proper consideration to the full suite of preventive measures. They should also be advised of the consequences of not adhering to such measures preventive measures put in place.

3.2. Before arriving at the airport

Objective: ***To reduce the chances that any passenger with COVID-19 compatible symptoms ARRIVES at the airport.***

To ensure that passengers arriving at the airport are aware of and adhere to the aircraft operators, in coordination with airport operators, shall inform future passengers via promotional measures of the travel restrictions for any passenger that may have COVID-19 compatible symptoms before arriving at the departure airport. This should include the symptoms to be considered. Promotional material should encourage symptomatic passengers not to present themselves at the airport for flight.

Aircraft operators should inform their passengers that symptomatic passengers identified in the airport by the public health authorities may be refused continuing their travel.

Aircraft operators should inform their passengers that they have to come to the airport **not less 3 hours and not more than 4 hours before the time of the flight.**

In order to reduce the number of people in the terminal, and consequently facilitate physical distancing, airport operators, in coordination with aircraft operators, shall inform passengers prior to arrival at the airport that access to the terminal is restricted to passengers only.

The airport terminal access shall be restricted to workers, travelers and persons accompanying passengers with disabilities, with reduced mobility or unaccompanied minors in an initial phase, as long as it does not create crowds and queues which would then increase risks of transmission as well as create a potential security vulnerability.

Furthermore, airport operators shall clearly signal the point beyond which accompanying persons are not allowed to cross.

Passengers shall receive information about COVID-19 symptoms and the risk of possible contact with COVID-19 cases and be requested to acknowledge reading this information and sign or electronically authenticate a health statement. This shall be achieved preferably prior to arrival at the airport but no longer than forty-eight (48) hours in advance of the flight.

Aircraft operators shall encourage their passengers to use the online check in process. During the online check in process, the safety measures applicable shall be part of the declaration that he/she is aware about it.

Aircraft operators shall make a similar declaration available to their crew members. The crew member shall be immediately removed from flying duties by the airline in case of any doubts of symptoms or any health related issue without undue pressure or fear of sanctions/disciplinary measures.

It's the obligation of airlines to inform their passengers at the time of booking of any requirements for PCR tests certificates for the destination airports. Passengers without the necessary documents will be denied check in.

Handbags shall be restricted to only one hand bag and the airlines shall inform their passengers of this restriction at the time of making the bookings.

3.3 Considerations for the management of passengers at the departure airport

OBJECTIVE: ***To reduce the residual risk of transmission of the virus from potential asymptomatic contagious passenger. To reduce the residual risk of any infected passenger ACTUALLY BOARDING an aircraft***

Cleaning and Disinfection

Airport operators and, where applicable, service providers, should enhance cleaning activities both in amplitude and frequency. Airport operators should put a procedure in place to ensure that the cleaning and disinfection is done in a consistent manner and following the below principles:

- Regular cleaning and disinfection of surfaces should be performed using standard detergents with particular care paid to frequently touched surfaces (e.g. door handles, bannister rails, buttons, etc.).
- Regular cleaning and disinfection of airport information desks, passengers with reduced mobility (PRM) desks, check-in areas, immigration/customs areas, security screening area, boarding areas, escalators and lifts and handrails.
- Enhanced cleaning and maintenance should also include toilets, all frequently touched surfaces and the air conditioning system, including the employment of air filters and increasing the frequency of the filter replacement.
- Proper air ventilation should be ensured, minimising the percentage of air recirculation and favouring when possible the use of fresh air.
- Baggage trolleys and collection points should be cleaned with wipes or disinfectants.
- Multiple alcohol-based hand sanitizer stations or dispensers should be made available throughout the airport with adequate signs for passengers.
- Passenger toilets should be separated from airport staff and 3rd party's staff where possible.
- The toilet shall be cleaned every one hour and whenever needed

Thermal screening at the Departure Airport

Airport operator shall implement thermal screening (temperature checks), the following points should
be considered:

- Airport operator shall develop a procedure for screening and identify the required staff and resources to operate it.
- It is recommended to subject departing passengers entering the terminal to temperature checks immediately after entering the airport premises.
- Airport operators should identify the best location for the temperature control
- The temperature check shall aim to identify passengers with skin temperature of 38°C or higher. For passengers with skin temperature 38°C or higher temperature checks should be repeated at least once for confirmation purposes. Passengers with elevated skin temperature should be referred to secondary assessment by a health professional or follow the agreed protocol of screening.
- Due to the intensive use, equipment should be regularly recalibrated in accordance with the manufacturer's instructions or at even shorter intervals.

Protective screens

Wherever staff members interact with passengers from a fixed location such as, but not limited to, check-in, ticketing, car rentals, hotels, and all service desks across the airports, passport control and information counters, protective screens should be installed in such a way as to allow the handover

of the required documents but provide protection to the staff member from the respiratory droplets of passengers, and vice versa.

Check-in and boarding

- Passengers shall be advised/reminded by airport operators, in coordination with aircraft operators, to adhere to the applicable preventive measures described in point 3.1.
- Aircraft operators and airport operators shall cooperate to ensure physical distancing of 1.5 meter is respected through floor markings, especially during check-in, security check, pre-boarding and boarding.
- Limit interaction on board. Passengers shall travel as lightly as possible with all luggage checked-in except one piece of small hand luggage that will fit under the seat such as nursing bag, laptop bag.
- The size and quantity of duty-free sales may also be temporarily limited to one bag.
- Before boarding, passengers shall be reminded that they should ensure a sufficient supply of masks for the entire duration of their journey. Nevertheless, airport operators should also consider allowing acquisition of masks in case passengers have no access to face masks beforehand.
- Ground handlers shall ensure that during boarding safety messages are also communicated with passengers (i.e. social distancing, wearing of face masks, hand sanitation etc.)
- Where buses are used in the boarding process, an increased quantity should be considered in order to accommodate for physical distancing 1 meter inside them. Where boarding is performed using a boarding bridge, boarding by rows starting with the furthest row from the aircraft doors used in the embarkation process.
- All facilities, particularly frequently touched surfaces like handrails, used in the boarding process shall be subject to enhanced cleaning principles described in the Cleaning and Disinfection section above.
- All airlines shall ensure that row boarding is strictly implemented across all airports.
- Regular Public Announcement (PA) system to encourage physical distancing and mandatory use of mask.

3.4 Security Screening

OBJECTIVE: Measures to control access to the security screening checkpoint need to be considered, as well as possible modifications to standard screening, in order to comply with new COVID-19 sanitary guidelines.

Security screening staff should normally be exempt from carrying out health and safety related screening to ensure they remain focused on security screening and related processes.

Checkpoint access procedures

- Hand sanitizers and disinfection products shall be provided prior to passengers and staff screening access points where possible.

- Screeners and passengers shall maintain physical distancing to the extent possible and wear the appropriate PPE (face mask, gloves and face shield if needed) to mitigate the risk of exposure.
- Rearranging of security checkpoint accesses and layouts should be considered with the objective of reducing crowds and queues to the extent possible while maintaining desirable throughput. This should include both divestment areas and those areas where passengers retrieve their screened cabin baggage.
- Markings shall be established within the queueing area to indicate the proper distancing.
- Procedures involving passengers presenting boarding passes and other travel documents to security personnel should be done, to the extent possible, while avoiding physical contact and in a way that minimizes face-to-face interaction. Should there be a need to identify a person wearing a mask against a government-issued photo identification, the mask could be removed if physical distancing measures are met. Appropriate signage should be deployed that clearly inform about subsequent steps of the process.
- Mobile scanners reader surface should be disinfected with the same frequency as for any other high-touch surface.
- Passenger preparation officers should be deployed to ensure passengers are prepared for the divestment needs. Screeners should reinforce processes with passengers accessing divesting areas, such that they properly divest and are less likely to cause a false alarm (to minimize the use of manual searches).
- Routine enhanced cleaning and disinfecting shall be conducted, of frequently touched/exposed surfaces and security screening equipment, including trays at the security checkpoint and baggage areas.
- Immigration counters staff shall be responsible to sanitize of finger print devices before any use by passengers.

Passenger Screening

- Alcohol-based hand sanitizer shall be distributed to staff for the cleaning and disinfection of their hands.
- Screeners should wear gloves and change them after each manual search.
- Employees should be advised to wash their hands after removing gloves.
- Appropriate signage and information to passengers should be clearly displayed regarding newly implemented health requirements, as well as modified screening processes. Signage shall highlight the need for passenger cooperation throughout the screening process.
- Whenever screening checkpoints are processing a high number of passengers, staff and crew screening should be performed in dedicated checkpoints and separately from passengers (as an additional preventive health measure), where possible.
- Where possible, alarm resolution should be conducted in a dedicated area separated from the flow of passengers. This methodology mitigates the risk of queue build up and maintains passenger throughput but may need the positioning of additional personnel.

- For WTMD alarm resolution, prioritize the use of hand held metal detectors to identify the cause of alarm followed by a targeted manual search where the alarm is.
- The use of explosive trace detection equipment (ETD) or explosive detection dogs (EDD) should not be limited to alarm resolution. Random use of such explosive detection should be encouraged and leveraged where possible.
- In order to resolve any alarms or concerns identified by screeners, the use of ETD or EDD should be considered in lieu of manual searches, where appropriate and subject to the nature of the screener's concerns.
- If the standard procedure allows for the reuse of ETD swabs, consideration should be given to discontinuing this practice to limit the possibility of spreading COVID-19.
- If there is a need to conduct a manual search, screeners should adapt their methodology, if possible, to avoid being face-to-face with passengers or other persons being screened.
- Staff needed to interact with passengers in close proximity shall use a face mask.

3.5 Aircraft Terminal Gate Equipment

OBJECTIVE: Appropriate safety checks need to be conducted prior to the recovery of the airline traffic. Airports and airlines need to work together to ensure that accurate flight schedules are provided in order to meet this demand.

- Electromechanical equipment such as boarding bridges, escalators and elevators must be inspected and periodically tested or started up. Inspections of such decommissioned equipment are essential before returning them to service for passenger use, based on manufacturers' recommendations and national building codes.
- Maintenance protocols need to be defined and deployed.
- Where conditioned air is needed, power should be maintained in all outdoor-based equipment such as jetways and pre-conditioned air units.
- Where external pre-conditioned air (PCA) and fixed electrical ground power (400 Hertz) are available at the stand, an aircraft can switch off its auxiliary power unit (APU) after arrival. A PCA system takes in ambient air through an intake filter and provides conditioned air to the cabin.
- External air sources are not processed through the aircraft's high-efficiency particulate air (HEPA) filter. The aircraft APU should be permitted to be used at the gate to enable the aircraft's air conditioning system to be operated, if equivalent filtration from PCA is not available.

3.6 Management of passengers on-board the aircraft

OBJECTIVE: To reduce the residual risk of transmission of Covid-19 in an aircraft, in the event an asymptomatic passenger is on-board.

Aircraft operators shall provide guidance material to passengers regarding application of the preventive measures on board, including:

- Hand hygiene, particularly before eating or drinking and after use of the toilet
- Appropriate use of face masks
- Respiratory etiquette
- Limiting contact with cabin surfaces
- **Limit or suspend food and beverage service. Food and beverage service should be limited or suspended on short-haul flights or should be considered to be dispensed in sealed, pre-packaged containers.**
- **The use of non-essential in-flight supplies, such as blankets and pillows, should be reduced to minimize the risk of cross infection.**
- **Newspapers and magazines shall be removed.**

Aircraft operators shall include in their safety demonstrations that, in case of emergency, passengers should remove their face masks before using the aircraft oxygen masks.

Although passengers should have been reminded to have a sufficient supply of masks for the duration of their journey, Aircraft operators shall carry a sufficient amount of face masks on board to provide to passengers, especially for long haul flights where the need to change masks may be advised by public health authorities.

Crew protection measures. Sharing of safety equipment used for safety demonstrations should be prohibited. Safety equipment used for safety demonstration shall be cleaned and disinfected after each sector. Crew members should be instructed to provide service only to specific sections of the cabin. Additional means of protection, for instance plastic curtains or Plexiglas panels during the boarding process (to be removed once boarding is completed), should be explored.

Lavatories on aircraft:

- Restrict lavatory access. When possible, one lavatory should be designated for crew use only, provided sufficient lavatories remain available for passenger use without fostering congregation by passengers waiting to use a lavatory. Also, to the extent practicable depending on the aircraft, passengers should use a designated lavatory based on seat assignment to limit passenger movement in flight, which reduces exposure to other.
- Cleaning of lavatories by cabin crew every 1-2 hours and whenever required.
- Cabin crew cleaning lavatories where provided shall have complete PPE (gown, face shield). Mask should be changed every 4 hours or when dampened or contaminated.
- Hand hygiene instruction should be made available in toilets for hand sanitization.
- Toilet covers or disinfection wipes should be available in toilets.
- Items that can be shared (perfume bottles) should be removed.

Aircraft operators shall ensure that passengers don’t change seat and avoid providing children with toys.

3.7 Management of passengers on board with COVID-19 compatible symptoms

***OBJECTIVE*: To reduce the risk of transmission from a symptomatic passenger on board inflight.**

In the event that, after take-off, a passenger shows symptoms compatible with COVID-19 such as fever, persistent cough, vomiting, diarrhoea, difficulty breathing or other flu-like symptoms, the following measures shall be considered:

- Cabin crew shall be trained and equipped to deal with suspected cases
- The crew should make sure that the passenger is wearing their face mask properly and has additional masks available to replace it in case it becomes wet after coughing or sneezing. If a face mask cannot be tolerated, the sick person should cover their mouth and nose with tissues when coughing or sneezing. In the event the passenger is having difficulty breathing, medical assistance should be sought and oxygen supplementation offered.
- The passenger should be isolated on-board. Depending on the configuration of the aircraft the actual occupancy and distribution of passengers, the position of the symptomatic case, and to the extent that is practicable:
    - An isolation area should be defined, leaving, if possible, two (2) rows of seats cleared in each direction around the suspected passenger.
    - Taking into consideration all factors, where possible, the suspected passenger shall be seated in the last row window seat, preferably on the side of the aircraft where the Outflow Valve is.
    - Where possible the lavatory closest to the suspected passenger should be specifically designated for them and not be used by the rest of the passengers or the crew.
    - According to the composition of the cabin crew, the Senior Cabin Crew member should designate specific crew member(s) to provide the necessary in-flight service to the isolation area(s). This cabin crew member should be one that had prior contact with the suspected passenger. The designated crew member should make use of the PPE. The designated crew member should minimise close contact with other crew members and avoid other unnecessary contact with other passengers.

- Where possible, the individual air supply nozzle for the symptomatic passenger should be turned off in order to limit the potential spread of droplets.
- If the suspected passenger is travelling accompanied, the passenger's companions should be also confined in the isolation area even if they do not exhibit any symptoms.
- The flight crew should inform destination airport on the medical case, follow their instructions and complete the health part of the aircraft general declaration to register the health information on-board and submit it to the Point of Entry health authorities when required by a State's representative.

- After the flight has landed and other passengers have disembarked, the isolated passenger and, where applicable, crew members should be transferred in accordance with the instructions provided by the local public health authorities.
- The crew member designated to provide on-board services for the suspected passenger, and other crew members which may have been in direct contact with the suspected passenger, should be provided with transportation to facilities where they can clean and disinfect before having physical contact with other people. Alternatively, as a last resort, after carefully disposing of the used PPE and washing and disinfecting their hands, the respective cabin crew members could be isolated on board, in a quarantine area, before return to base or a layover destination.
- After removal of the COVID-19 suspected case cleaning and disinfection of the aircraft should be performed. Used PPE, such as gloves, face masks, face shields should be disposed in a separate tightly closed waste bag which can be disposed as regular waste.

If a suspected passenger is identified on board before take-off, the airport and local health authorities should be informed and their instructions followed. At this point, if no specific direct contact has taken place between the symptomatic passenger and crew members, no additional measures need be taken in regards to the management of the crew members, unless as otherwise advised by the local public health authorities.

3.8 Management of arriving and transit passengers

OBJECTIVE: To reduce the residual risk that, should an infected person have been on a flight or at the airport, they would infect other passengers at the arrival airport and/or in the destination region.

Disembarking

Passengers should be reminded by airport operators, in coordination with Aircraft operators, to adhere to the applicable preventive measures described in point 3.1 and to the relevant principles set in the check-in and boarding section of point 3.3.

Aircraft operators before landing shall through the public announcement remind all passengers of the requirements of face masks at Oman Airports, physical distancing and that they will be subject to thermal screening.

Aircraft operators shall ensure that passengers before they disembark the aircraft they have their face masks on. Aircraft operators must ensure they have sufficient stock to give to passengers should their masks are damaged.

Aircraft operators and airport operators should cooperate to ensure physical distancing is practiced as much as possible during the disembarkation procedure.

Used medical face masks should be discarded safely in a separate tightly closed waste bag, which can be disposed as regular waste.

Depending on the terminal facilities and apron layout, disembarkation can be done via buses from the parked aircraft, walking in a spaced manner from the parked aircraft on the apron to the gate, and finally using bus stations at the terminal building or air bridges directly into the terminal. Where buses are used in the disembarkation process, ground handlers shall ensure that adequate busses are provided to comply with MOH standards.

Rows de-boarding shall be strictly implemented starting with the closest rows to the exits in use, in the order aisle, middle and window seats, or an alternative procedure that would ensure physical distancing to the maximum extent possible and avoid queuing.

Thermal cameras should be installed to scan the temperature for arriving and transfer passengers.

Develop "one-stop" health screening arrangements using existing one-stop security arrangement as a model. In this model, passengers and property are not rescreened at transfer locations based on mutual recognition of security measures between the States in the travel itinerary. A similar arrangement for health screening procedures may prevent new queuing points at passenger transfer locations.

Passenger locator card (PLC)

Aircraft operators should provide, without undue delay and without prejudice to applicable data protection rules, the following data to the relevant public health authorities upon request for contact tracing purposes:

- Full name
- Allocated seat
- Working phone number (or email address)

Thermal screening at the Arrival Airport

Entry thermal screening is required.

Passengers having a fever which, following the assessment, are considered COVID-19 suspect should be dealt with in accordance with the instructions of the local public health authorities in terms of testing, transport and quarantine. Without prejudice to the previous, the symptomatic passenger should not, under any circumstance, be repatriated on a regular passenger flight.

3.9 Baggage Claim Area

OBJECTIVE*: *The baggage claim area of an airport is susceptible to high passenger footfall and physical contact with luggage carts, baggage, washrooms and other facilities. Disinfection measures and increased frequency of cleaning should be implemented.

- All efforts need to be made to provide a speedy baggage claim process and ensure that passengers are not made to wait for excessive amounts of time in the baggage claim area.

- Maximize use of available arrival baggage carousels to limit the gathering of passengers, and, where possible, use of dedicated baggage carousels for flights from high risk areas.
- Cleaning schedules should be aligned based on flight schedules to ensure a more frequent, in-depth disinfection of luggage carts, washrooms, elevator buttons, rails, etc.
- Self-service kiosks or online options for passenger needing to report lost or damaged luggage should be made available.
- The use of retractable stanchions and floor markings should be considered as a temporary measure to encourage physical distancing at the baggage carousel.
- Airline agents at lost luggage counters should be provided with a protective transparent separator when possible.
- Baggage tracking information should be shared with passengers so that they are able to make a baggage claim, in case of baggage mishandling, without waiting in the reclaim area.
- Protocols for cleaning and disinfection of the area should be established.
- Trolleys at baggage reclaim must be sanitized before the passengers can collect them.

4 - Aircraft

Note: The following elements concerning disinfection contain the latest joint aircraft original equipment manufacturer (OEM) recommendations currently available. Users of this guidance should note that:

- *These recommendations are based on evolving circumstances and technology.*
- *While every attempt was made to provide common recommendations for disinfectants usage on aeroplanes, there are differences between the products manufactured by each aircraft OEM. It is strongly recommended that the operator is familiar with OEM guidance and consults the OEM for any questions specific to that airframe.*
- *The intent of these guidelines is to provide operators with recommendations that are aligned with the aircraft product. It is the responsibility of the operator to ensure that the disinfectants are used per the manufacturer's instructions, that proper protection is employed by those using the disinfectant and that their use is in alignment with health organizations recommendations for recommendations for efficacy, and in accordance with the label instructions of the disinfectant.*

4.1 Disinfection – Flight Deck

OBJECTIVE: To Provide a safe, sanitary operating environment for crew and ground staff.

- Frequency of cleaning of the flight deck shall account for the separation of the flight deck from the passenger compartment as well as for the frequency of crew transitions.
- The flight deck shall be cleaned and disinfected at an appropriate frequency to accommodate safe operations for the crew.
- Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) as a disinfectant for the flight deck touch surfaces. The OEM's instructions should be referred to ensure that the proper application, ventilation, and personal protection

equipment is used. For more detailed recommendations or additional disinfecting chemicals, reach out to the specific Airframe Manufacturer.

- Surfaces should be cleaned of dirt and debris before disinfecting to maximize effectiveness.
- Application to surfaces should be with pre-moistened wipes or single use wetted cloth and use limited bottle sizes on board to minimize the risk of spilling the IPA solution. Do not spray IPA in the flight deck. Do not allow the liquid to pool or drip into the equipment.
- IPA is flammable, so precautions should be taken around potential sources of ignition.
- Because the frequency of disinfection has significantly increased due to COVID-19, and there is no data on the long term effects associated with this frequent application, the operator should periodically inspect the equipment to ensure that there are no long term effects or damage over time. If damage is observed, contact the OEM for guidance on alternate disinfectants. Specific care should be taken for application on leather and other porous surfaces.
- Given the increased likelihood that switch positions may be inadvertently changed during the cleaning or disinfection process, operators and flight crew should reinforce procedures to verify that all flight deck switches and controls are in the correct position prior to operation of the airplane.
- Some equipment on the flight deck may have additional disinfectant needs based on usage (e.g. oxygen masks) and procedures shall be put in place accordingly.

4.2 Disinfection – Passenger Cabin

***OBJECTIVE**: To Provide a safe, sanitary operating environment for passengers, crew, and ground staff.*

- The cabin shall be cleaned and disinfected at an appropriate frequency to accommodate safe operations for the passengers and crew. The frequency should account for the operation of the aircraft and the potential exposure of an infected person.
- Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) as a disinfectant for the touch surfaces. The OEM's instructions should be referred to ensure that the proper application, ventilation, and personal protection equipment is used. For more detailed recommendations or additional disinfecting chemicals, reach out to the specific airframe manufacturer.
- Surfaces should be cleaned of dirt and debris before disinfecting to maximize effectiveness.
- Application to surfaces should be with pre-moistened wipes or singe use wetted cloth and use limited bottle sizes on board to minimize the risk of spilling the IPA solution. Do not spray IPA in the cabin. Do not allow the liquid to pool or drip into equipment (e.g. in-flight entertainment electronic boxes).
- IPA is flammable, so precautions should be taken around potential sources of ignition.
- Because the frequency of disinfection has significantly increased due to COVID-19, and there is no data on the long term effects associated with this frequent application, the operator should periodically inspect the equipment to ensure that there are no long term effects,

colour shift or damage over time. If damage is observed, contact the OEM for guidance on alternate disinfectants. Specific care should be taken for application on leather and other porous surfaces. The operator should validate disinfecting agents for buyer furnished equipment (e.g. Seats and IFE) with the manufacturer.

4.3 Disinfection – Cargo compartment

OBJECTIVE: To Provide a safe, sanitary operating environment for crew and ground staff.

- The cargo compartment touch surfaces shall be cleaned and disinfected at an appropriate frequency to accommodate safe operations for the ground staff.
- Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) as a disinfectant for the touch surfaces. Refer to the OEM's instructions to ensure that the proper application, ventilation, and personal protection equipment is used.
- Surfaces should be cleaned of dirt and debris before disinfecting to maximize effectiveness.
- Application to surfaces should be with pre-moistened wipes or single use wetted cloth and use limited bottle sizes on board to minimize the risk of spilling the IPA solution. Do not spray IPA in the Cargo Compartment. Do not allow the liquid contact critical equipment (e.g. smoke detector, electronic door operation equipment and fire extinguishing discharge nozzle).
- IPA is flammable, so precautions should be taken around potential sources of ignition. Pay particular attention to hidden ignition sources as many aircraft have electronic boxes mounted in the cargo compartment.
- Because the frequency of disinfection has significantly increased due to COVID-19, and there is no data on the long term effects associated with this frequent application, the operator should periodically inspect the equipment to ensure that there are no long term effects or damage over time. If damage is observed, contact the OEM for guidance on alternate disinfectants.

4.4 Disinfection – Maintenance

OBJECTIVE: To Provide a safe, sanitary operating environment for passengers, crew and ground staff.

- Airlines shall be mindful of regular maintenance to both air systems and water systems to ensure they continue to protect the passenger and crew from viruses. Airlines shall refer to the Airframe OEM for specific maintenance actions and intervals.
- Airlines should include access panels and other maintenance areas in their disinfection procedures to ensure a safe environment for the maintenance crews.
- Airlines may wish to review their operating procedures to minimize the number of personnel who need to be in contact with high-touch surfaces such as access panels, door handles, switches, etc.

- Airlines shall establish maintenance procedures to be applied after disinfection procedures in order to check the Flight Deck, Passenger Cabin and Cargo Compartment for the correct positioning of control handle, circuit breakers and control panels switches and knobs. Access panels and doors' closure also should be checked.

4.5 Air System Operations

OBJECTIVE: ***The aircraft manufacturers recommend maximizing total cabin airflow and care should be taken to avoid blocking air vents (particularly along the floor). These are general recommendations for cabin air considerations and there may be exceptions for specific aircraft models. It is strongly recommended that operators consult with the aircraft OEM for questions specific to an aircraft type.***

Ground Operations (before chocks-off and after chocks-in)

- Operations without the air conditioning packs or external pre-conditioned air (PCA) source should be avoided. External air sources are not processed through a high-efficiency particulate air (HEPA) filter. The aircraft APU should be permitted to be used at the gate to enable the aircraft's air conditioning system to be operated, if equivalent filtration from PCA is not available.
- If the aircraft has an air recirculation system, but does not have HEPA filters installed, reference shall be made to OEM published documents or the OEM should be contacted to determine the recirculation system setting.
- It is recommended that fresh air and recirculation systems be operated to exchange the volume of cabin air before boarding considering the following:
  - For aircraft with air conditioning, run the air conditioning packs (with bleed air provided by APU or engines) or supply air via external PCA source at least 10 minutes prior to the boarding process, throughout boarding and during disembarkation.
  - For aircraft with HEPA filters, run the recirculation system to maximize flow through the filters.
  - For aircraft without air condition system, keep aircraft doors open during turnaround time to facilitate cabin air exchange (passengers' door, service door and cargo door).

Flight Operations

- Operate environmental control systems with all Packs in AUTO and recirculation fans on.
  - Valid only if HEPA recirculation air filters are confirmed to be installed.
- If non-HEPA filters are installed, contact the aircraft OEM for recommendations on recirculation settings.
- If the aircraft in-flight operating procedure calls for packs to be off for take-off, the packs should be switched back on as soon as thrust performance allows.

MEL Dispatch:

- Fully operational air conditioning packs and recirculation fans provide the best overall cabin ventilation performance. It is recommended to minimize dispatch with packs inoperative. It is recommended to minimize dispatch with recirculation fans inoperative for aircraft equipped with HEPA filter.
- Some aircraft have better airflow performance with all outflow valves operational. The OEM should be contacted about ventilation performance of the aircraft with outflow valves inoperative and the limitations associated with the dispatch in this situation.

High Flow (max Bleed) Switch:

- If the aircraft has an option for high flow operation, contact the OEM for setting recommendations. For example:

  Boeing recommends that airlines select High Flow Mode for 747-8, MD-80 and MD-90 aircraft, as this will maximize total ventilation rate in the cabin.

  Note: That this will increase fuel burn. However, for the 747-400 and 737, High Flow Mode should NOT be selected as this does not result in an increase in total ventilation rate. For all models, recirculation fans should remain on (when HEPA filters are installed).

Filter Maintenance:

- Follow normal maintenance procedures as specified by the OEM. Take note of special protection and handling of filters when changing them.
- Contact OEM or refer to OEM published document to check if an additional sanitization procedure and/or personnel health

5 - Crew

5.1 Crew Members

OBJECTIVE: Provide harmonised health protection and sanitation considerations applicable to crew members that can be implemented globally.

There needs to be a clear statement that the crew path must be clearly separated from the passengers. Crew must have designated immigration, emigration and screening devices dedicated if they are not handled at a separate building to avoid transmitting of the virus from the passengers.

Note: Unless specified as flight crew or cabin crew, the term "crew" refers to all operational crew required on board for the air operator to support the flight. This element applies to all crew.

Facilitation

- Crew members, maintenance and cargo/load specialized personnel who are involved in flights with a layover, shall not be medically quarantined and detained for observations while on layover or after returning, unless they were exposed to a known symptomatic passenger or crew member on board or during the layover.

  Note: Crew members operating passenger aircraft with cargo only, for example, should ensure that the correct notification has been sent to all agencies, to ensure that there is no confusion, or that crew members carried on board such as loadmasters, engineers, and cabin crew are correctly recognised and designated on the crew manifest.

- DGCAR may consider implementing measures that facilitate the continued operation of aircraft, such that:
  - Quarantine measures not imposed on crew who need to layover, or rest, for the purposes of complying with flight time limitation (FTL) rest requirements.
  - Crews are not subject to screening or restrictions applicable to other travelers.
  - Health screening methods for crew members are as non-invasive as possible.

Health monitoring

- Crew/Staff should monitor themselves for fever, cough, shortness of breath, or other symptoms of COVID-19. The common cut off point for fever is **37.5°C or higher**.
- Crew/Staff should take their temperature at least twice per day during duty periods and at any time they feel unwell.
- Crew/Staff should stay at home or in their hotel room, notify their employers' occupational health program, and not report for work if they develop a fever, shortness of breath, or other symptoms of COVID-19. They should not return to work until cleared to do so by the employers' occupational health program and public health officials.

Examples of crew exposure concerns, include the following:

- Are within a mandated period quarantine related to previous travel and/or duty.
- Test positive for Covid-19 regardless of symptoms evident.
- Know that they have been exposed to a person showing symptoms of Covid-19.
- Are experiencing any symptoms of Covid-19.
- Have recovered from Covid-19 symptoms but have not been assessed by the employers' occupational health program and public health authority.

During Flight:

If a crew member develops symptoms during flight, the crew member should stop working as soon as practical, put on a surgical mask, notify the pilot in charge, and maintain the recommended physical distance from others, when possible to do so. Upon landing, individuals should follow up with airline medical and public health officials.

After the flight has landed and other passengers have disembarked, the crew members should be transferred in accordance with the instructions provided by the local public health authorities.

After removal of the COVID-19 suspected crew case, cleaning and disinfection of the aircraft should be performed. Used PPE, such as gloves, face masks, face shields should be disposed in a separate tightly closed waste bag which can be disposed as regular waste.

If a suspected crew is identified on board before take-off, the airline operator, airport and local health authorities should be informed and their instructions followed. At this point, if there is an evidence that there has been specific direct contact has taken place between the suspected crew member and the other operating crew or airport staff, additional measures need be taken in regards to the management of the other crew members, unless as otherwise advised by the local public health authorities.

Health protection

- To protect the health of crew and others, including co-workers, crew members should:
  - Maintain recommended physical distance from others where possible, when working on the aircraft e.g., while seated on the jump seat(s) during take-off or landing, during ground transportation and while in public places.
  - Wash their hands regularly. If hands are not visibly dirty, the preferred method is using an alcohol-based hand rub for 20−30 seconds using the appropriate technique. When hands are visibly dirty, they should be washed with soap and water for 40−60 seconds using the appropriate technique.
  - Be reminded to, along with frequent hand washing/sanitization, avoid touching their face including while wearing gloves.
  - Wear a face mask while around other people, especially in situations where the recommended physical distance from others cannot be maintained
  - Avoid contact with people with a cough, fever, or shortness of breath or otherwise suspected of having COVID-19.
  - Inspect and verify contents of the UPKs (universal precaution kit) before each flight. Crew members should also follow existing air carrier policy and procedures regarding the use of PPE in the UPKs, if needed to provide care to a sick traveler on board.

Additionally, airlines should:

- Provide sufficient quantities of cleaning and disinfectant products (e.g. disinfectant wipes) that are effective against COVID-19 for use during flight.
- Consider providing face covering to crew members for routine use when on duty, if these do not interfere with PPE, job tasks and when it is difficult to maintain the recommended physical distance from co-workers or passengers.

Use of lavatories

- Ideally, one or more lavatories should be reserved for crew use, in order to limit the potential for infection from passengers.

Crew rest compartments

- To minimize any possibility of cross infection, pillows, cushions, sheets, blankets or duvets, where provided, should not be used by multiple persons unless coverings are disinfected.
- Some airlines issue each crew member with their own provisions and the cabin crew members are responsible for ensuring that they are removed and bagged after use.
- Other airlines provide bulk loading for crew rest area bedding items. Where this is the case, crew members should install their own bedding items before their rest period and remove them hygienically afterwards.

Training devices

- The frequency of routine cleaning of flight simulators and training devices and other training aids, or equipment used during training (including oxygen masks) should be increased. Cleaning products used should be compatible with COVID-19 disinfectants.

5.2 Flight Crew

OBJECTIVE: Provide harmonised health protection and sanitation considerations applicable to Flight Crew which can be implemented globally.

- Access to the flight deck should be limited to the greatest extent possible.
- Flight crew members should only leave the flight deck for short physiological breaks and scheduled rest.
- In the case of flight crew at controls displaying symptoms, the operator should consider whether removal from the flight deck is an appropriate mitigation within their risk assessment, and should establish procedures to identify whether a diversion is needed.
- Carriers should ensure that when face masks are worn by flight crew or other crew members etc., oxygen masks can be still rapidly placed on the face, properly secured, sealed, supplying oxygen on demand and flight crew are provided with the correct guidance on how to do so.
- When leaving flight deck, all items should be stowed, personal items removed, and flight-deck is ready for cleaning and disinfection.
- Prior to each cockpit crew change, the flight-deck shall have been fully sanitized.
- In-person interactions with the cabin crew should be reduced to a minimum.
- If possible, only one person should be designated to be able to enter cockpit when necessary.
- Only one member of the flight crew or technical crew should be allowed to disembark the aircraft to complete the external inspection, refuelling, etc., in such case direct contact with the ground crew should be avoided.

5.3 Cabin Crew

OBJECTIVE: Provide harmonised health protection and sanitation considerations applicable to crew members that can be implemented globally.

- Cabin crew who are in contact with a passenger suspected to be infected should not visit the flight deck unless operationally necessary.

  Note: Sick passenger positioning guidance is contained in Air System Operations element of the Aircraft module.

- While limiting the number and frequency of physical flight crew checks, an alternative method of checking on flight crew welfare such as regular interphone calls should be implemented.
- The use of PPE shall not impact the ability to carry out normal, abnormal and emergency safety procedures, such as the donning of oxygen masks, carrying out firefighting procedures etc.
- Safety demonstration equipment shall not be shared to the extent feasible to reduce the likelihood of virus transmission. If they must be shared, alternate means of demonstration without the equipment should be considered or the equipment should be thoroughly sanitized between uses.
- Safety demonstrations shall highlight to passengers that face coverings should be removed before donning emergency oxygen masks, should they be needed.

5.4 Operations layover requirements

a) All layover should be avoided as most countries still at high risk.

b) Whenever layover is approved the following should be considered:

1. Layover should be minimal (not exceeding 24 hours).
2. Hotel should only be inside the airport or safe hotel nearby the airport.
3. Transportation should be through a contracted provider known to the airline and public transport or taxis should be avoided.
4. Crew are not allowed to leave hotel and airline should accordingly establish a monitoring process.
5. Food should be delivered in the room and access to buffet, bar and restaurant should not be allowed.
6. No visiting or visitors should be allowed.
7. Leaving premises should not be allowed unless medical emergency.

6 - Cargo

6.1 Road Feeder to Freight Reception & freight pick up

OBJECTIVE: To Protect cargo handling staff and truckers during the handover points for physical freight (in warehouse) and documentation (often in an office).

Onsite biosafety principles:

- Proximity for document handover should be minimized, floor markings shall be indicated and / or appropriate PPE shall be worn.
- Wherever possible, hand washing or alcohol-based hand sanitizer shall be placed on entry.

- Surfaces (e.g. handles, kiosks) shall be regularly cleaned and disinfected.
- Alcohol-based hand sanitizer shall be made available for users of kiosks, etc.

Physical handover of goods (truck offload):

- Drivers should stay in vehicle cabin until instructed (as per relevant procedures).
- Physical distance should be kept between driver and facility staff where possible.
- Close contact of personnel should be limited; appropriate PPE should be worn where appropriate.

Documentation handover (office):

- Digital document systems and data exchange should be implemented wherever possible.
- Physical distancing of at least 1.5 meter shall be kept between all parties where possible, use of floor markings or wearing the appropriate PPE (e.g. mask).
- Where physical documents need to be signed, each signatory should do so with their own pen.
- Physical barriers should be installed (transparent) at counters and reception.
- Alcohol-based hand sanitizer should be made available when entering or exiting common areas.

Material handling equipment (MHE) usage (e.g. forklifts, hand carts):

- To avoid cross contamination, MHE shall be cleaned and disinfected after use.
- Employees shall be educated and shall practice personal hygiene principles.
- Appropriate PPE should be worn where necessary.

6.2 Within Cargo facility (Origin / Destination / Transit)

Objective: ***Protect staff during the Cargo facility handover to/from ramp crews in preparation for aircraft loading and unloading.***

Onsite biosafety principles

- Physical distance shall be kept at all times.
- Regular cleaning and disinfection of surfaces (e.g. handles, kiosks) shall be established.
- Alcohol-based hand sanitizer shall be made available for users of kiosks, shared mobile devices, etc.
- Close proximity for handover should be minimized (e.g. drop zones) or appropriate PPE shall be worn.
- Staff rotations should be maintained to the best possible extent in order to minimize cross team infection**.**

Physical handover of goods

- Physical distance shall be maintained, and cargo drop zones used where possible.

- Close contact of personnel should be limited, and appropriate PPE shall be worn where necessary.

Material Handling Equipment (MHE) / Ground support equipment (GSE) usage

- To avoid cross contamination, GSE shall be cleaned and disinfected between users.
- All employees shall be educated and shall practice personal hygiene principles.
- Appropriate PPE shall be worn where necessary.

6.3 Cargo facility to ramp (Origin / Transit / Destination)

Objective: Protect staff during the Cargo facility handover to/from ramp crews in preparation for aircraft loading and unloading.

Onsite biosafety principles

- Physical distance should be kept at all times.
- Regular cleaning and disinfection of surfaces (e.g. handles, kiosks) shall be established.
- Alcohol-based hand sanitizer shall be made available for users of kiosks, shared mobile devices, etc.
- Close proximity for handover should be minimized (e.g. drop zones) or appropriate PPE shall be worn.
- Staff rotations should be maintained to the best possible extent in order to minimize cross team infection.

Physical handover of goods

- Physical distance shall be maintained, and cargo drop zones used where possible.
- Close contact of personnel should be limited, and appropriate PPE should be worn.

Material Handling Equipment (MHE) / Ground support equipment (GSE) usage

- To avoid cross contamination, GSE shall be cleaned and disinfected between users.
- All employees shall be educated and shall practice personal hygiene principles.
- Appropriate PPE shall be worn where necessary.

6.4 Aircraft Loading / Unloading

Objective: Protect ramp handling staff during the loading and unloading of the aircraft, which is usually performed by multiple crews of 3 to 4 persons depending on the operation.

Ensure enhanced public health safety when the number of close contact personnel rises during manual loading of the passenger cabin.

Onsite biosafety principles

- Physical distance shall be kept at all times.
- Alcohol-based hand sanitizer shall be placed on entry into common areas.

- Regular cleaning and disinfection of surfaces (e.g. handles, mobile devices, kiosks) should be established.
- Alcohol-based hand sanitizer should be made available for users of kiosks, shared mobile devices, etc.
- Close proximity of staff for loading should be minimized or appropriate PPE should be used particularly for passenger cabin loading.
- Staff rotations should be maintained to the best possible extent in order to minimize cross team infection.

Physical Loading of goods

- Physical distancing shall be maintaned when operational safety is not compromised (encourage single person operations).
- Close contact of personnel should be limited, and appropriate PPE shall be worn where necessary.
- For “human chain” loading, appropriate PPE shall be used (face masks and gloves) and hygiene principles shall be applied between operations.

Ground support equipment (GSE) usage

- To avoid cross contamination, GSE shall be cleaned and disinfected between users.
- All employees shall be educated and shall practice personal hygiene principles.
- Appropriate PPE shall be worn where necessary.

Appendix 1- Notification of Health status prior to Issuing Boarding Pass to and from THE SULTANATE OF OMAN

An example of a notification of the health status, to be to be completed prior to issuing a boarding pass, is presented below. It shall be made clear that this applies for each individual passenger.

I understand that I must advise as soon as possible, and should on no account report to the airport for the flight, if any of the following statements apply

- ☐ I have been diagnosed with COVID-19 at any time during the 14 days prior to my flight. I have had any of the COVID-19 relevant symptoms (fever; newly developed cough; loss of taste or smell; shortness of breath) at any time during the 8 days prior to my flight.
- ☐ I have been in close contact (e.g. less than 1.5 meters for more than 15 minutes) with a person who has COVID-19 in the 14 days prior to my flight.
- ☐ I am required by local or national regulations to be in quarantine for reasons related to COVID19 for a period that includes the date of the fight,

I understand that any of these circumstances will result in refusal to proceed with my travel if I do not disclose this information to the airline before arrival at the airport and my circumstances are identified on site at the airport. This declaration should be updated in line with latest developments on microbiological testing for COVID-19.