



Bhutan Civil Aviation Authority

Guidance on the management of crew members

in relation to the COVID-19 pandemic

Issue no.: 01

Date: 14.07.2020

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Revision record

Issue	Date of issue	Summary of changes
01	08.07.2020	Initial issue

Change Revision Summary

Paragraph no.	Description of change

1. Background

- 1.1 In December 2019, the outbreak of a new type of coronavirus was identified in the province of Hubei, China. Since then, the evolution of the outbreak has been very rapid, affecting most countries worldwide. Consequently, on 30 January 2020 the outbreak was declared by the World Health Organization (WHO) as a public health emergency of international concern (PHEIC) and on 11 March 2020 further characterized as a pandemic.
- 1.2 In this context, BCAA has developed, issued and updated a safety information Issue 01 and 02 – **Operators Guide to Cleaning and disinfection of Aircrafts** to provide operational recommendations to Operators in accordance with the International Civil Aviation Organization (ICAO), World Health Organization (WHO), International Air Transport Association (IATA), and European Union Aviation Safety Agency (EASA) etc...
- 1.3 Consequently, BCAA has developed and updated the following guidelines providing details on the measures recommended for operators regarding the management of crew members that operate in high-risk areas. Although the development of these guidelines was triggered by the events as presented above, it is at the same time useful to implement good practices for the protection of crew members and limit the spread of the virus through air travel.
- 1.4 These guidelines should be considered operators in conjunction with the recommendations of the WHO and Ministry of Health with regard to the management of contacts, suspected and confirmed cases.
- 1.5 The decision of the MoH will prevail at all times over the recommendations presented in this guidance.

2. General considerations

2.1 Stopovers and Layovers

- 2.1.1 Aircraft operators are encouraged to take and implement appropriate measures to avoid long stopovers and layovers in areas with confirmed ongoing local transmission of SARS-CoV-2, as much as practicable, in order to reduce the risk of contamination posed by the need for crew members to exit the airport's restricted areas and to unnecessarily come into contact with the local population.
- 2.1.2 Where crew members, maintenance or cargo/load specialised personnel are involved in flights with a short stopover or in special flights (such as those used for the emergency transportation of materials and medical teams) to/from areas with confirmed ongoing local transmission of SARS-CoV-2, they generally do not need to be put in quarantine and medical observation after their return, provided that they did not have a symptomatic passenger or crew member on board and could make good pre-return preparations by strictly observing the following requirements:
 - (1) Only one flight or technical crew member should be allowed to disembark the aircraft for external visual inspection, refuelling inspection, etc. In such case, close contact with the ground staff of an airport situated in an area with confirmed ongoing local transmission of SARS-CoV-2 should be avoided.
 - (2) To the greatest extent possible, no ground staff should be allowed to board the aircraft except for resolving technical problems or other ground staff whose presence on board is essential to perform their tasks. When such staff are on board, they should be required to wear appropriate personal protective equipment (PPE). Additionally, crew members should take all measures to keep close contact to a minimum, including wearing PPE such as face masks.

- (3) The aircraft doors should be closed as soon as practicable for the return trip upon completion of the boarding procedure, including that of assisting medical personnel and materials, where applicable.

2.1.3 When long stopovers or layovers cannot be avoided due to operational restrictions, mitigating measures should be put in place in coordination with the airport operators and local authorities to ensure that the risk of exposure through the contact of crew members with the local population is considerably reduced. Such measures may include but are not limited to the following:

- (1) The aircraft operators should provide crew members with Additional Station Information outlining Special consideration/Curfews/Operational Restrictions based on national or local requirements at the destination;
- (2) In agreement with the airport and local authorities, crew members should be transferred, as much as practically possible, with a minimum separation of one seat between crew members.
- (3) Crew members should not be transferred to and from the resting facilities (hotel) through the public areas of the airport terminals.
- (4) Once they reach their resting facilities (hotel), crew members should:
 - (a) At all times comply with local public health regulations and policies;
 - (b) Avoid unnecessary contact with the public and other crew members, observe good personal hygiene, respiratory hygiene and physical distancing measures and wear a medical facemask when required to leave the room;
 - (c) Remain in the room as much as practical except to seek medical attention, for emergency situations or for essential activities, while respecting physical distancing requirements;
 - (d) Not use the common facilities of the accommodation unless physical distancing measures are in place;
 - (e) Consider dining in-room, getting take-outs or dining in a restaurant preferably within the accommodation facility, maintaining physical distancing; and
 - (f) Regularly monitor for COVID-19 relevant symptoms including fever.
- (5) The aircraft operator should ensure that each crew member has their own room (single occupancy) and should agree with the hotel that the rooms to be used by crew members should be disinfected before use.

2.2 Management of on-board responsibilities

The aircraft operator should clearly designate the tasks and cabin areas of responsibility to all cabin crew members who are expected to come into direct contact with passengers. Depending on aircraft configuration and cabin crew composition, each cabin crew member should be designated to perform their duties, as much as practically possible, in a single, delimited sector of the cabin. This will enable easier identification of the individuals who might be at greater risk of contamination should a COVID-19 case be identified on board. Aircraft operators should consider adjusting all non-essential crew interaction with passengers to reduce as much as practically possible the risk of contamination from asymptomatic passengers.

2.3 Universal Precaution Kit (UPK)

Aircraft operators should equip their aircraft with one or more UPKs as recommended by the WHO and MoH and provide training material to their crew members on how to safely put on and remove the PPE in accordance with the guidance provided by the WHO or the MoH.

Note 1: The content of the UPK is, in accordance with Attachment B of ICAO Annex 6 (ICAO, 2020):

- (1) Dry powder that can convert small liquid spill into a sterile granulated gel
- (2) Germicidal disinfectant for surface cleaning
- (3) Skin wipes
- (4) Face/eye mask (separate or combined)
- (5) Gloves (disposable)
- (6) Protective apron
- (7) Large absorbent towel
- (8) Pick-up scoop with scraper
- (9) Bio-hazard disposal waste bag
- (10) Instructions

3. Protection of crew members

- 3.1 When rostering crews, the aircraft operator should as much as possible maintain the same teams in order to avoid cross-contamination. This is particularly important for flight crew involved in helicopter operations and even more so for the ones performing medical flights.
- 3.2 Aircraft operators should provide crew members with guidance for health self-monitoring, which should include:
 - (1) measuring the body temperature at least twice a day;
 - (2) monitoring for symptoms such as fever, persistent coughing, or difficulties in breathing;
 - (3) clear and quick reporting means to inform the aircraft operator of potential signs or symptoms of infection. For the purpose of documenting evidence to be provided to public health authorities, aircraft operators should use the ICAO Crew COVID-19 Status Card presented in Annex I or similar forms acceptable to their national public health authorities.
- 3.3 Aircraft operators should develop clear and detailed procedures for the situation where a crew member becomes symptomatic, covering the cases when the crew member is at their home base, while down route or while on active duty.
- 3.4 Aircraft operators should establish the necessary PPE for their crew members, based on the risk of transmission for a given flight and the duty time foreseen. Additional equipment, such as medical face masks and disposable gloves, should be available for the management and treatment of suspected COVID-19 passengers and all crew members.

Note 2: According to scientific research (Lee, et al., 2016), the use of N95 or higher respirators and FFP3 respirators against airborne infectious diseases in healthcare settings is recommended. When

these certified disposable filtering half-facepiece respirators are in short supply or not available, surgical masks may be an alternative. Surgical masks are used to block large particles (such as droplets, splashes, sprays, or splatter) that may contain microorganisms (e.g., viruses and bacteria) from reaching the nose and mouth. They are primarily intended to protect patients from healthcare workers by minimizing exposure of saliva and respiratory secretions to the patients.

- 3.5 Medical face masks should be worn at all times by crew members that come into direct contact with passengers, and should be replaced regularly (at intervals not exceeding 4 hours). The correct disposal of PPE and other items that may be contaminated should be ensured by providing detailed instructions to crew members regarding the implemented policy. Waste materials that were in direct contact with passengers, airport staff or aircrew members, including partially consumed meals, beverages and disposable items such as used paper towels, tissues and PPE produced while treating or supporting passengers or aircrew members, should be treated in accordance with the applicable international guidance or, where available, national guidance, giving proper consideration to the cases where a symptomatic passenger, airport staff or aircrew member is/are present at the airport or on board the aircraft.

3.5 The aircraft operator should:

- (1) make every effort to ensure that, in an aircraft which has more than one lavatory and provided the number of passengers carried aboard allows for it, a lavatory should be reserved for the exclusive use of the crew, preferably the one closest to the flight crew compartment;
- (2) limit, to the greatest extent possible, access of aviation personnel other than the operating flight crew on duty to the flight crew compartment, unless deemed necessary for the completion of their tasks or for emergency reasons;
- (3) instruct its cabin crew members to systematically avoid touching passengers' belongings (carry-on luggage).

Note 3: There is currently limited evidence on the immunity and protection against the COVID-19 disease provided by antibodies detected in the sera of recovered patients. The quantity, quality and duration of the human immune response to SARS-CoV-2 is, as yet, unclear. In addition, we lack validated serology tests that can ascertain immunity to the virus. This lack of correlation with disease immunity is not expected to be resolved in the coming months and it will take years to establish long-term immunity. There is not enough of a scientific basis for using serology or other immune markers to take decisions on travel (ECDC). Given the evidence currently available, and the fact that there are several cases of reinfection listed in recent scientific literature, crew members that were infected and have recovered should take the same precautionary measures as their colleagues do.

- 3.6 In case of a medical emergency on board, cardiopulmonary resuscitation (CPR), if needed, should be performed based on existing protocols. The one-way valve of the mouth-to-mouth resuscitation mask will protect the crew member providing respiratory support from contamination. Nevertheless, proper hand hygiene should be observed immediately after CPR is over, as well as after any other medical intervention, by all crew members (and volunteers, where applicable), before touching or coming into direct contact with other passengers or crew members.
- 3.7 Furthermore, should oxygen-dispensing equipment (i.e. therapeutic oxygen, drop-down oxygen masks) or any other emergency or medical equipment be required to be used during the flight, it should be thoroughly disinfected or disposed of accordingly before the next flight. When

therapeutic oxygen is provided to suspected passengers or crew members, the oxygen mask(s) used should be disposed of in accordance with the applicable international guidance¹.

4. Management of crew members in pandemic situations

4.1 Management of crew members in case of symptomatic passenger(s) on board

If, after take-off, a passenger shows symptoms that are compatible with COVID-19, such as fever, persistent cough, difficulty breathing or other flu-like symptoms, the recommendations should be followed as detailed in Section 3.5 of the COVID-19 Aviation Health Safety Protocol on Management of passengers on-board the aircraft with COVID-19-compatible symptoms.

4.2 Management of crew members following post-flight confirmation of a positive COVID-19 passenger

In cases where the local public health authorities inform an aircraft operator that a confirmed positive passenger was carried on board on one of its flights, the aircraft operator should notify the crew members that flew the flight segment concerned and inform them that they should self-isolate for 21 days, starting from the end of the respective flight. This should also apply to flights that were operated within 5 days before the collection of the test sample in case of asymptomatic passengers or within 3 days before the onset of symptoms for the symptomatic passengers, unless otherwise specified by the local public health authorities. For flights operated beyond these intervals, the risk for the passenger(s) to be contagious during the flight is considered to be low.

Note 4: The incubation period of the SARS-CoV-2 virus has been found to be between 1 and 21 days, with a median incubation period of 5.1 days. 75 % of the cases have an incubation period longer than 4 days and only 2.5 % of the cases have an incubation period of less than 2 days². Based on existing medical articles describing different types of evolution, including the fact that in some cases the first symptoms may be so mild as to be overlooked by some patients, it is considered that an interval of more than 72 hours before the onset of symptoms is considered as being safe in terms of infectivity. With similar reasoning, due to the possibility of mild symptoms being overlooked, in case a test is performed based only within an epidemiological context without symptoms being present at the time of testing, a period longer than 5 days before the time of collection of the sample which proves to be positive is considered as being safe in terms of infectivity.

4.3 Management of suspected crew members on board

4.3.1 If a crew member exhibits symptoms such as fever, persistent cough, difficulties in breathing or other flu-like symptoms, and has an epidemiologically-relevant context (such as having recently come into contact with confirmed positive cases), they should be:

¹ <https://apps.who.int/iris/bitstream/handle/10665/331488/WHO-2019-nCoV-Aviation-2020.1-eng.pdf>
<https://www.who.int/publications/i/item/water-sanitation-hygiene-and-waste-management-for-the-covid-19-virus-interim-guidance>
<https://www.iata.org/contentassets/df216feeb8bb4d52a3e16befc9671033/iata-guidance-cabin-operations-during-post-pandemic.pdf>

² <https://annals.org/fullarticle/2762808/incubation-period-coronavirus-disease-2019-covid-19-from-publicly-reported>

- (1) isolated on board, following the same guidelines described in Section 3.5 of the COVID-19 Aviation Health Safety Protocol on Management of passengers on-board the aircraft with COVID-19-compatible symptoms;
- (2) disembarked and managed in accordance with the instructions of the local public health authorities after the aircraft has landed and, preferably after all passengers and crew members have disembarked;
- (3) required to contact the local public health authorities as soon as possible and follow their instructions, including being tested for SARS-CoV-2 as soon as practicably possible;

4.3.2 put in quarantine or asked to self-isolate in accordance with the instructions of the local public health authorities until the test results are available. If the test result is positive, then quarantine will be extended until the crew member is considered to have fully recovered — currently, the WHO consider a positive case to have fully recovered if 2 consecutive tests performed on samples collected at least 24 hours apart are negative. If the test is negative, the crew member may resume flying duties. The other crew members that came into close contact (less than 1 metre for longer than 15 minutes) with the suspected crew member within 3 days before the onset of symptoms should be put in quarantine until the test results of the suspected crew member are available. If the test is positive, they should be put in quarantine for 21 days starting from the moment of the last contact.

4.3.3 If the test is negative, they may resume flying duties. There should be no detrimental impact on suspected crew members.

4.4 Management of crew members involved in medical flights

Flight crew members that perform medical flights should:

- (1) avoid unnecessary close contact with the medical patient;
- (2) if they have information from the medical crew that the medical patient is a suspected COVID-19 patient, wear a medical face mask, gloves and protective clothing when they are close to the medical patient;
- (3) where after a flight for which no preventive measures have been taken, the information that the medical patient or another flight or medical crew member was tested positive for SARS-CoV-2, the flight crew members that have performed their duties in the same flight crew compartment with the confirmed positive case should be put in quarantine for 21 days. This should also apply to flights operated within 5 days before the collection of the test sample for the asymptomatic crew members or within 3 days before the onset of symptoms for the symptomatic crew members. For flights operated beyond these intervals, the risk for the passenger to be contagious during the flight is considered to be low;
- (4) adapt their procedures to the specificities of the medical mission in consultation with their local public health authorities and/or their medical crew members.

Annex I – ICAO CREW COVID-19 STATUS CARD

ICAO

CREW COVID-19 STATUS CARD	
Purpose of this card: Information to be recorded by crew prior to departure to confirm their COVID-19 health status and to facilitate processing by Ministry of Health (MoH). Notwithstanding completion of this card, a crew member might still be subjected to additional screening by MoH as part of a multi-layer prevention approach e.g. when recorded temperature is 38 C° (100.4 F°) or greater.	
1. During the past 14 days, have you had close contact(face-to-face contact within 1 metre and for more than 15 minutes or direct physical contact) with someone who had symptoms suggestive of COVID-19? Yes <input type="checkbox"/> No <input type="checkbox"/>	
2. Have you had any of the following symptoms during the past 14 days: Fever Yes <input type="checkbox"/> No <input type="checkbox"/> Coughing Yes <input type="checkbox"/> No <input type="checkbox"/> Breathing difficulties Yes <input type="checkbox"/> No <input type="checkbox"/>	
3. Temperature at duty start: Temperature not recorded due to individual not feeling/ appearing feverish <input type="checkbox"/> Temperature in degrees C° <input type="checkbox"/> / F° <input type="checkbox"/> : _____ Date: _____ Time: _____ Recording method: Forehead <input type="checkbox"/> Ear <input type="checkbox"/> Other <input type="checkbox"/> _____	
4. Have you had a positive PCR³ COVID-19 test during the past 14 days? Yes <input type="checkbox"/> No <input type="checkbox"/> Attach report if available	
Crew member Identification: Name: Airline/ aircraft operator: Nationality and Passport No: Signature: Date:	

ICAO Public health corridor (PHC) Form 1

³ Polymerise chain reactio

References

- CAAC. (2020). Preventing Spread of Coronavirus Disease 2019 - Guideline for Airlines - third edition. People's Republic of China.
- CDC US. (2020, 03 26). *Discontinuation of Home Isolation for Persons with COVID-19*. Retrieved from CDC.gov: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-in-home-patients.html>
- ECDC. (2020, 3 26). *Discharge criteria*. Retrieved from ECDC: <https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-Discharge-criteria.pdf>
- ECDC. (2020, 03 26). *Guidance for wearing and removing personal protective equipment*. Retrieved from ECDC: <https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-guidance-wearing-and-removing-personal-protective-equipment-healthcare-settings-updated.pdf>
- ECDC. (n.d.). *Considerations relating to passenger locator data, entry and exit screening and health declarations in the context of COVID-19 in the EU/EEA and the UK*. Retrieved from <https://www.ecdc.europa.eu/en/publications-data/passenger-locator-data-entry-exit-screening-health-declaration>
- EU Healthy Gateways. (2020, 03 26). *Novel Coronavirus*. Retrieved from <https://www.healthygateways.eu/>: https://www.healthygateways.eu/Portals/0/plcdocs/EU_HEALTHY_GATEWAYS_2019-nCoV_AIRCRAFTS_4_2_2020_F.pdf?ver=2020-02-05-102326-010
- European Commission. (2020, 03 26). *Coronavirus guidance*. Retrieved from European Commission: https://ec.europa.eu/transport/sites/transport/files/legislation/c20202010_en.pdf
- IATA. (2020, 03 26). *Emergency response guidelines*. Retrieved from IATA.org: <https://www.iata.org/en/programs/safety/health/diseases/#tab-2>
- ICAO. (2020, 03 26). *ICAO Health Related SARPS*. Retrieved from CAPSCA: <https://www.capsca.org/Documentation/ICAOHealthRelatedSARPsandguidelines.pdf>
- ICAO. (n.d.). *ICAO CART*. Retrieved from <https://www.icao.int/covid/cart/Pages/CART-Take-off.aspx>
- IFALPA. (2020, 03 26). *COVID 19 Guidance For Crews*. Retrieved from IFALPA: <https://www.ifalpa.org/publications/library/covid-19-guidance-for-crews--3300>
- Lee, S.-A., Hwang, D.-C., Li, H.-Y., Tsai, C.-F., Chen, C., & Chen , J.-K. (2016). Particle Size-Selective Assessment of Protection of European Standard FFP Respirators and Surgical Masks against Particles-Tested with Human Subjects. *Journal of healthcare engineering*, <https://doi.org/10.1155/2016/8572493>.
- WHO. (2020, 03 26). *How to put on and how to remove PPE*. Retrieved from WHO: <https://www.who.int/csr/resources/publications/ebola/ppe-ste>
- WHO. (2020, March 20). *Operational considerations for managing COVID-19 cases or outbreak in aviation*. Retrieved from WHO.int: <https://apps.who.int/iris/bitstream/handle/10665/331488/WHO-2019-nCoV-Aviation-2020.1-eng.pdf>
- WHO. (2020, 03 26). *When to use a mask*. Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>
- World Health Organisation. (2009). *Guide to Hygiene and Sanitation in Aviation*. Geneva: WHO; ISBN 978 92 4 154777 2.