

Annex 1

Preventing the Spread of Coronavirus Disease 2019 (COVID-19) Guideline for Airlines Ninth Edition

In order to instruct transport airlines to implement routine COVID-19 prevention and control and fully adopt the overarching strategy of “preventing disease importation and domestic resurgence” and the general policy of “dynamic zero-COVID”, this ninth edition of the *Preventing the Spread of Coronavirus Disease 2019 (COVID-19) Guideline for Airlines* is developed, taking into account of the previous experience and effective practices in pandemic response made by the civil aviation industry, and based on the previous eight editions of the Guidelines and the *Protocol on Prevention and Control of COVID-19* (Ninth Edition) issued by the Joint Prevention and Control Mechanism of the State Council.

1. Standards for Classification of Flight Risk Levels

According to the flight types and epidemic intensity at places where domestic flights originate, flight risks are divided into three levels, namely low level, medium level and and high level. Places where flights originate are defined in accordance with administrative areas (a county, a city, a region or a banner) where an airport is located.

Domestic flights and international/regional outbound flights which originate from places where there is no local clustered outbreak of the pandemic are rated as low-risk flights.

Domestic flights which originate from places where there are local COVID-19 clusters are rated as medium-risk flights.

International/regional inbound flights are rated as high-risk flights.

2. Prevention and Control Measures for On-duty Crew

2.1 COVID-19 vaccination

Prior to the performance of a high-risk flight task, crew members should receive booster doses.

2.2 Personal Protection Standards for Crew Members

Crew members should wear different kinds of protective equipment based on the risk levels of different flights. Refer to Attachment 1 for detailed protection standards.

2.3 Requirements for Wearing Personal Protective Equipment(PPE)

Crew members should not remove personal protective equipment if it is not necessary. Masks should be close to the faces, covering the noses and mouths completely. Once dampened or contaminated by secretions, facial masks should be replaced immediately with new ones, and hands should be cleaned and sanitized both before and after the replacement. Crew members flying high-risk flights should wear their masks during the whole flight. They may wear disposable medical surgical masks in the cockpit and change them at least once every 4 hours (or whenever necessary).

Disposed personal protective equipment should be placed in a dedicated protective equipment waste bag for centralized post-flight disposal. Disposed protective equipment of crew members flying high-risk flights should be placed in a yellow medical waste bag, packed and sealed as per requirements of the destination airport and safely handed over to ground staff.

2.4 Protection Requirements during Embarkation and Stopover abroad

2.4.1 Physical Items Handover

Crew members should wear effective personal protective equipment when they carry out job handover with relevant ground personnel. The handover should be carried out outside the cabin. They should avoid close contact with overseas personnel within 1 meter. After handover of items and materials, the paper materials should be put into a sealed plastic bag, and the outer surface of the sealed bag and hands should be disinfected.

2.4.2 Catering Preparation

Two-way meals should be prepared for high risk flights as far as possible. If it is necessary to prepare meals abroad, cold meals are not provided. The external surface of the dining carts should be disinfected before they are loaded on board. Meals should be fully heated before they are served.

3. Requirements for Passenger Management

3.1 Preparation before Boarding

3.1.1 All passengers clean and disinfect hands before boarding.

3.1.2 Crew members of low and medium-risk flights reminds passenger of preparing documents such as negative results of nucleic acid tests in advance according to requirements of destination cities.

3.1.3 Crew members of high-risk flights use non-contact body temperature detection equipment (calibrated) to measure passengers' body temperature and observe any potential symptoms. If any passenger is found to have suspected symptoms such as fever, dry cough, fatigue, sore throat, impairment of smell (taste) and diarrhea (hereinafter referred to as suspected passenger), crew members should report and respond in a timely way, and cooperate in the handover.

3.2 In-flight Prevention and Control Measures

3.2.1 Passengers should wear masks during the whole flight, and should not remove their masks if not necessary. Masks should have no breathing valves.

3.2.2 Passengers should reduce unnecessary movement in the cabin, and must not change seats except under special circumstances. Passengers should use lavatory in an orderly way as guided by flight attendants, put down toilet lid before flushing to avoid breathing in infectious particles and timely clean and disinfect hands after use.

3.2.3 Passengers should clean and disinfect hands in a timely way before meals or after touching surface of objects in the cabin, in particular those frequently touched ones such as armrest and door handles of lavatory, and avoid touching noses, mouths and eyes with unsanitized hands.

3.2.4 Passengers should immediately seek help from flight attendants if they have suspicious symptoms.

3.2.5 Passengers' discarded protective equipment (e.g. masks, disposable gloves, etc.) must not be randomly thrown away, instead they should be put in dedicated waste bags for protective equipment.

4. Prevention and Control Measures during In-flight Services

4.1 In-flight Broadcast

Crew members will broadcast messages on in-flight infection prevention and control measures before takeoff and during flight, which shall at least cover those included in 3.2 In-flight Prevention and Control Measures.

4.2 Catering Service

Cabin crew members should disinfect hands before and after food preparation.

4.2.1 Low-risk flights: normal meal service should be provided.

4.2.2 Medium-risk flights: food-preparation procedures should be simplified and pre-packaged food provided.

4.2.3 High-risk flights: passengers should be provided with pre-packaged food and bottled water before their boarding. Except for special needs, no in-flight catering service should be provided. Passengers sitting next to each other should be encouraged to have a meal at different times.

4.3 Lavatory Disinfection

Passengers should be arranged to use lavatory in an orderly way, and should keep social distance while waiting so as to avoid gathering outside the lavatory. Flight attendants should disinfect lavatories based on the risk levels of flights. Hands should be cleaned and sanitized upon completion of lavatory disinfection.

4.3.1 Low-risk flights: lavatories should be disinfected every 2 hours (or after being used 10 times).

4.3.2 Medium-risk flights: lavatories should be disinfected every hour (or after being used 5 times).

4.3.3 High-risk flights: ventilation of lavatories should be strengthened and lavatories should be disinfected every 30 minutes (or after being used 2-3 times).

4.4 Provision of In-flight Supplies

4.4.1 No special requirements are not set out for provision of in-flight supplies for low-risk and medium-risk flights.

4.4.2 Supply of magazines should be canceled on high-risk flights, and blankets and pillows should no longer be provided except for special needs. Designated waste collection bags for protective equipment should be additionally put in passenger seat pockets on high-risk flights and symptomatic passengers sitting in quarantine area should be provided with necessary medical protective equipment. Exclusive in-flight amenities should be provided for each crew member if the rest area is needed.

4.5 Cabin Area Division

4.5.1 Emergency Quarantine Area Division

According to risk levels of flights, seats should be reserved on board as an emergency

quarantine area, which should be used only by those under quarantine.

4.5.1.1 Medium-risk flights: the last three rows of seats on the right side should be reserved on board.

4.5.1.2 High-risk flights: the last three rows of seats should be reserved on board.

4.5.2 Lavatory Division

The lavatory on the rear right side of the cabin should be for the exclusive use by those under quarantine.

4.5.2.1 Low-risk and medium-risk flights: an exclusive lavatory for crew members should be assigned when conditions allow, otherwise the lavatory should be disinfected every time before and after use by crew members.

4.5.2.2 High-risk flights: the front lavatory should be assigned for exclusive use by crew members, and if conditions don't allow, the lavatory should be disinfected every time before and after use by crew members. When conditions allow, two lavatories should be assigned for separate use by flight crew members (including the cabin crew members serving flight crew members) and cabin crew members.

4.5.3 Clean Area Division

If conditions allow, a clean area should be assigned on a high-risk flight for exclusive use by flight crew members (including the cabin crew members serving flight crew members). After the flight lands, flight crew members should have their protective equipment changed in the clean area before deplaning.

Proper physical separation should be set up between crew rest area and passenger sitting area.

4.5.4 Cargo Loading Area Division

When transported on wide-body aircraft, cold-chain goods are recommended to be loaded and transported in a centralized manner in a separate container; and when on narrow-body aircraft, it is recommended to transport them in a separate cargo hold, not mixed with other goods.

If cargo is stored in the cabin of a high-risk flight because of special needs, a buffer area should be set up between crew sitting area (rest area) and cargo storage area.

4.6 Considerations of In-flight Service

4.6.1 Crew members should enhance hand cleaning and disinfection before meal, after using lavatory and before and after contact with passengers by using alcohol-based disinfection wipes or non-alcohol rinse free hand sanitizers. When crew members are not sure whether their hands are clean or not, they should avoid touching the noses, mouths and eyes with hands.

4.6.2 Flight attendants should avoid close contact with passengers without effective protection.

4.6.3 Crew members should pay close attention to their own health status, and timely report information in case of any suspicious situations.

4.6.4 Considerations of In-flight Service on a High-risk Flight

4.6.4.1 Flight attendants should be assigned to provide service only in their designated areas to achieve zoned management. The clean areas, the passenger sitting areas and the quarantine area on an aircraft should be served by different flight attendants. Flight attendants should avoid unnecessary cross-area service except for performing safety management duties and dealing with unexpected incidents. Close contacts between flight attendants and passengers and between flight attendants without effective protection should be avoided.

4.6.4.2 After touching or disposing wastes, flight attendants should wash hands with soap or hand sanitizers under running water before cleaning and disinfecting hands.

4.6.4.3 Flight crew members should reduce their entry/exit of the cockpit and use intercom system for communication whenever they can to avoid close contact.

4.6.4.4 Crew members should take care to avoid dining at the same time, and should disinfect hands before meals. Crew members should not wear protective equipment such as protective clothing during meals and rest and should not put on and take off protective clothing in a lavatory.

4.6.4.5 Aircraft air conditioning system should be set at maximum ventilation during flight to ensure efficient air circulation in the cabin.

4.6.4.6 Crew members of cargo flights carrying cold-chain goods and live animals shall not come into contact with cargo and outer packaging during transport.

4.7 Handling of In-flight Medical Emergencies

If any passenger on board is found to show suspicious symptoms, the following should be done:

4.7.1 A flight attendant should be designated to provide them with essential in-flight services. Unless required to operate for the purpose of safety, the flight attendant designated should reduce close contact with other crew members.

4.7.2 Passengers with suspicious symptoms should be seated in the window seats on the right side of the designated emergency quarantine area, and the rear lavatory on the right side should be reserved exclusively for those under quarantine to avoid cross infection.

4.7.3 Before coming into contact with passengers with suspicious symptoms or contaminants of a contagious nature (such as vomit, excretions or blood) or contaminated articles or surfaces, crew members should wear personal protective equipment as described in Attachment 1.

5. Cleaning and Disinfection of Aircraft

5.1 Routine Cleaning of Aircraft

Wet process cleaning for aircraft should be applied during a stopover to avoid the further spread of infectious substances. A thorough cleaning should be applied upon the completion of the flight. Please refer to Attachment 2 for detailed cleaning requirements. Cleaning of lavatories and galleys should be prioritized if there is limited time for the stopover.

5.2 Assessment of Efficacy of Aircraft Cleaning

If an assessment of the efficacy of aircraft environment cleaning is necessary, it could be done by using fluorescence labeling to conduct quantitative analysis into the efficacy of the cleaning of frequently-touched surfaces according to requirements of the health department. Details can be found in *Guidelines for Cleaning and Disinfecting Environmental Surfaces in Healthcare Facilities* (WS/T 512-2016).

5.3 Replacement Processes and Requirements for High Efficiency Particulate Air (HEPA) Filters

5.3.1 Ventilation of Aircraft

Upon arrival, cabin and cargo hold doors should be opened for ventilation before maintenance work is performed, and the time for natural ventilation should be extended.

5.3.2 Considerations of Replacing HEPA Filters

HEPA filters should be replaced in accordance with what's specified in the

manufacturer's manual, in strict compliance with the prevention and protection requirements set out in the Aircraft Maintenance Manual(AMM). The used HEPA filters should be replaced by a designated person, and sealed in a double-layered plastic bag. The external surface of the bag should be disinfected before being treated innocuously.

5.3.3 Personal Protection

When replacing HEPA filters, maintenance staff should wear KN95/N95 masks, goggles or face screen, disposable protective clothing, disposable medical rubber gloves or nitrile gloves, disposable shoe/boot covers and disposable caps. Upon the completion of the maintenance task, the maintenance staff should remove their protective equipment in the specified order and then clean and sanitize their hands.

5.3.4 Assessment of Efficacy of Disinfection

After an aircraft carries a confirmed passenger, assessment of efficacy of disinfection of the aircraft air conditioning filter system should be carried out or HEPA filters should be replaced if the conditions allow.

5.4 Aircraft Concurrent Disinfection

When contaminated by potentially contagious blood, secretions, excretions, vomit and other liquid contaminants, aircraft cabin should be disinfected concurrently. Operating procedures and disinfection protocols for concurrent disinfection are contained in Appendix 2.

5.5 Disinfection of Low and Medium-risk Flights

5.5.1 Preventative Disinfection

5.5.1.1 Chemical disinfection: please refer to Appendix 1 for the operating procedures and the choice of disinfectants. The aircraft flying a low-risk flight shall be subject to preventive disinfection at least once a month, and the aircraft flying a medium-risk flight shall be subject to preventive disinfection on the same day when a flight is completed. Disinfection personnel should have obtained relevant qualifications or accepted training before performing duty.

5.5.1.2 Ultraviolet disinfection: ultraviolet disinfection can be used when conditions permit, but ultraviolet disinfection cannot replace the routine cleaning procedure. Use of ultraviolet disinfection may cause damage or discoloration of aviation materials, and therefore should meet airworthiness requirements. If, in the case of ultraviolet disinfection, there is a blind area on certain high-frequency contact surfaces which can not be exposed to ultraviolet light, chemical disinfection should be adopted.

Information on technical requirements such as ultraviolet intensity, leakage and ozone leakage is included in the *Hygienic Requirements for Ultraviolet Sterilizers* (GB 28235-2020).

5.5.2 Terminal Disinfection

If an aircraft is found to have carried passengers with suspicious symptoms, a terminal disinfection of the passenger cabin should be conducted immediately following its landing if the conditions permit. If animal remains or suspicious contaminants of a contagious nature are found in the cargo hold, a post-flight terminal disinfection of the cargo hold should be performed. If a crew member is found to be a confirmed case, terminal disinfection of the cockpit should be conducted. Operating procedures and disinfection protocols for terminal disinfection are contained in Appendix 3.

5.6 Disinfection of High-risk Flight

5.6.1 Inbound passenger flight

Inbound aircraft and wastes on board shall be terminally disinfected as per the requirements of the local health and quarantine department and the Disinfection Work Plan for Inbound Passenger Aircraft (Document No. 100 (2021) issued by the Joint Prevention and Control Mechanism of the State Council). The operating procedures for terminal disinfection shall be based on the Notice on further Enhancing Disinfection for the Prevention and Control of COVID-19 (Document No. 94 (2021) issued by the Joint Prevention and Control Mechanism of the State Council) and the relevant provisions of the health and quarantine department.

Garbage on board (including kitchen wastes on board) shall be collected by designated cleaning or aviation food service personnel, and be treated as per the requirements of the local health and quarantine department. It is recommended that the garbage collected be wet sprayed using the disinfectant with an effective chlorine concentration of 1000mg/L, and put into double-layered yellow medical waste bags to prevent garbage leakage. Waste bags shall be sprayed on each layer with disinfectant before being gooseneck tied.

5.6.2 Inbound cargo flight

Inbound aircraft and wastes on board shall be disinfected in accordance with the relevant requirements of the local health and quarantine department.

If the airport of origin can provide compelling evidence showing that cargo and Unit Load Devices (ULDs) have been preventatively disinfected prior to take-off, the airport of destination may not need to repeat the preventive disinfection of the aircraft cargo hold.

5.7 Assessment of the Efficacy of Aircraft Disinfection

For the specific methods used in efficacy assessment of aircraft disinfection, please refer to the Standards Governing the Assessment of On-site Disinfection during COVID-19 (WS/T 774-2021).

6.Quarantine Measures for the Crew Members on International/regional Flights Upon Their Return

6.1 Quarantine Measures for Cabin Crew Members

6.1.1 For those who did not disembark abroad

Upon their return, cabin crew shall be put under centralized quarantine for 7 days, followed by health monitoring for 3 days. During the quarantine period, they shall receive nucleic acid tests on the 1st, 2nd, 3rd, 5th and 7th day after their return. During the health monitoring period, nucleic acid tests shall be performed on the 3rd day. They can continue to fly international/regional flights during quarantine, and can fly flights during health monitoring period.

6.1.2 For those who made a brief stay or an oversight stay abroad

Upon their return, cabin crew shall be put under centralized quarantine for 7 days, followed by health monitoring for 3 days. During the quarantine period, they shall receive nucleic acid tests on the 1st, 2nd, 3rd, 5th and 7th day after their return. During the health monitoring period, nucleic acid tests shall be performed on the 3rd day. They can fly international/regional flights during health monitoring period.

6.2 Quarantine Measures for Flight Crew Members

6.2.1 For those who did not disembark abroad

Upon their return, flight crew can be exempted from centralized quarantine, but shall have their health monitored for 7 days. During the health monitoring period, they shall receive nucleic acid tests on the 1st, 2nd, 3rd, 5th and 7th day after their return, and can fly flights.

6.2.2 For those who made a brief stay abroad

Flight crew who needed to make a brief stay abroad shall, upon their return, be put under centralized quarantine for 7 days, followed by health monitoring for 3 days. During the quarantine period, they shall receive nucleic acid tests on the 1st, 2nd, 3rd, 5th and 7th day after their return. During the health monitoring period, nucleic acid tests shall be performed on the 3rd day. They can continue to fly international/regional flights during both the quarantine and health monitoring period.

6.2.3 For those who made an overnight stay abroad

Upon their return, flight crew shall be put under centralized quarantine for 7 days, followed by health monitoring for 3 days. During the quarantine period, they shall receive nucleic acid tests on the 1st, 2nd, 3rd, 5th and 7th day after their return. During the health monitoring period, nucleic acid tests shall be performed on the 3rd day. They can only fly international/regional cargo flights during the quarantine period, and can continue to fly international/regional flights during the health monitoring period.

6.3 Quarantine Requirements for Crew Members Continuing to Fly during the Quarantine Period

Where crew members flying international/regional flights continue to fly during their centralized quarantine, they shall quarantine as follows:

6.3.1 Assuming that there is no change in crew members, if they are required to quarantine as a result of continuing operating such a flight, the quarantine period shall be recalculated based on the quarantine period applicable to the flight operated during quarantine, and if they are not required to quarantine as a result of continuing operating such a flight, they shall continue to quarantine as required by operating the previous flight.

6.3.2 If there is a replacement/addition to the crew team, the quarantine period for the whole team shall be based on the longest individual quarantine period in the team.

6.4 Other Requirements

6.4.1 For crew members flying inbound international/regional passenger flights which do not carry any passengers, they shall quarantine upon their return as per the quarantine requirements for flight crew members. For crew members flying passenger-to-cargo flights, they shall quarantine as per the quarantine requirements for flight crew members. Where an inbound passenger-to-cargo flight carries passengers due to special considerations, crew members shall quarantine upon their return in the same manner as those flying passenger flights. Where crew members who did not disembark had close contact with overseas personnel, they shall quarantine as per the requirement for those who made a brief stay abroad.

6.4.2 Non-disembarkation means that no crew members left the aircraft during their stop abroad, except for such essential operations as refueling and external aircraft inspection, and had no close contact (within 1 meter) with overseas personnel. Crew members and the airline shall jointly make a written commitment on this, put the joint commitment on record, and bear the corresponding responsibility.

6.4.3 Upon the completion of a flight operation task, the airline shall assess crew members' risk of exposure overseas. Where such an exposure risk is identified, all of the crew members shall be subject to the "7-day centralized quarantine and 3-day health monitoring" practise.

6.4.4 While under health monitoring, crew members shall refrain from going out unless necessary. They shall not go to crowded public places or attend group events, and shall avoid using public transport such as bus, train, plane and subway. They shall wear personal protection if they do have to travel to perform duties.

6.4.5 While under centralized quarantine, crew members can fly a ferry flight to their base where they shall be transferred on a special car to a centralized quarantine point.

6.4.6 While under health monitoring, crew members can be arranged to be flown to their base or perform ferry flight to their base to perform duty. Where the flight crew who did not make an overnight stay or disembark abroad are to be flown to their base, they shall wear personal protection throughout the journey and avoid contact with passengers on board. Upon return to the base, they shall be transferred on a special car to a place for health monitoring and be put under health monitoring for the number of days remaining.

6.4.7 Crew members shall wear KN95/N95 masks when performing duties while under centralized quarantine and health monitoring.

7. Management of International/Regional Flight Crew Members under Centralized Quarantine

7.1 Prevention and Control Measures during Transfer

Crew members flying inbound international/regional flights who are required to be under centralized quarantine shall be strictly put under closed-loop management during the period from disembarking upon their return to checking-in to the quarantine site. A special vehicle shall be arranged, if necessary, to carry crew members, who shall be under closed-loop management, be separated upon entry into China and take different vehicles.

7.2 Prevention and Control Measures during Centralized Quarantine at Hotels

7.2.1 Crew members shall stay alone. The room where they stay shall be equipped with a separate toilet. The indoor lighting and ventilation conditions shall be satisfactory. A suitable area shall be set aside for indoor activity and hot water shall be available on a 24-hour basis.

7.2.2 Crew members shall dine alone in their own room, and food shall be delivered

without any physical contact. When the risk is low or there are no new confirmed cases in the city where they stay, crew members can choose to order takeout or have their food delivered. No one other than the essential staff shall be allowed to enter their room.

8. Management of International/Regional Flight Crew Members Stationed Abroad

During their stay abroad, crew members shall enhance their prevention awareness, have themselves well protected to avoid being infected while going through customs clearance, using overseas traffic and staying at overseas hotel, and constantly pay close attention to their health conditions.

8.1 Prevention and Control Measures during Customs Clearance

8.1.1 While waiting and going through customs clearance at an overseas airport, crew members shall wear KN95/N95 masks, goggles, disposable medical rubber or nitrile gloves.

8.1.2 Crew members shall wear personal protective equipment, keep a distance of more than 1 meter, avoid mixing with passengers as far as possible, and avoid taking off their protective equipment unless necessary.

8.1.3 When going through customs clearance, they shall carry with them sanitizers and place in advance documents that need to be inspected in a dedicated user-friendly transparent bag. They shall disinfect the bag's surface in time upon the completion of inspection process at the customs and sanitize their hands immediately.

8.2 Prevention and Control Measures while Using Overseas Traffic

8.2.1 Crew members shall be carried by a dedicated vehicle, and shall avoid sitting in the co-driver area. The driver shall wear a mask.

8.2.2 Vehicles shall be cleaned, disinfected and ventilated prior to and after each ride, with enhanced disinfection for, in particular, those high-touch surfaces such as door handles, seat armrest and railings.

8.2.3 Vehicles carrying crew members shall strictly follow the designated route and make no stop while travelling between airport and hotel.

8.3 Prevention and Control Measures while Staying in an Overseas Hotel

8.3.1 Airlines shall avoid crowded areas when arranging hotels for their crew members. Where conditions permit, hotel rooms in which crew members stay shall

remain unchanged, and must not be checked in by anyone other than the airline's crew members. If staying in an unchanged room is impossible, crew members shall bring with themselves their own bedding and other daily necessities. Before crew members arrive at and check in to the hotel, hotel staff shall, at the request of the airline, thoroughly clean, disinfect and ventilate the rooms. Rooms shall be equipped with temperature detection equipment, or crew members can bring their own.

8.3.2 As far as possible, the airline will coordinate with the hotel in introducing non-contact check-in and food ordering, or setting up a designated counter. Crew members shall assign a designated person to go through procedures related to hotel check-in and food ordering. Crew members shall keep a distance of more than 1 meter from the hotel staff and other guests, disinfect their hands in time after taking the room card and menu, and refrain from using shared hotel supplies. Crew members must be strictly placed under closed-off management during their stay at the hotel. They must not go out. Where the overseas hotel is shared with people other than the crew members, crew members must not leave their rooms after check-in until they leave the hotel for the return flight.

Crew members shall avoid direct contact with elevator buttons. They shall wear masks and goggles and keep a distance of over 1 meter while having contact with others.

8.3.3 After checking in, crew members shall first of all remove their protective equipment inside the room following the standard procedure, followed by disinfection of high-touch surfaces in the room (such as door handle, power switch, seat armrest, remote control and faucet). Rooms shall be ventilated frequently. Crew members shall avoid using central air conditioning, clean rubbish every day, and never leave kitchen wastes indoors longer than necessary.

8.3.4 After entering the room, crew members shall clean and disinfect their hands before replacing their disposable mask and gloves with new ones. Personal belongings and outer clothing shall be disinfected. The outer clothing removed shall be put in the laundry bag which shall be sealed and disinfected. When possible, crew members shall carry an extra uniform and change their uniform before departure. Hands shall be cleaned and disinfected both before and after changing clothes.

8.3.5 Crew members shall eat alone in the hotel room. If takeaway meals are to be served, they shall be delivered without any physical contact. Food delivery personnel must not enter the room, and the external packaging shall be disinfected before meals.

8.3.6 During their stay at the hotel, crew members shall closely monitor their own health conditions, and report their body temperature on a daily basis and any abnormal symptoms immediately. The pilot-in-command or chief flight attendant is responsible for reporting crew members' health status and their activities to the airline

on a daily basis and recording such information for future reference.

8.3.7 Airlines shall be well informed about the health conditions of the overseas service staff having contact with crew members, including drivers and food preparation staff, and make it mandatory for them to receive nucleic acid or antigen testing on a regular basis. Such service staff shall remain unchanged whenever possible. They must wear masks throughout their contact with crew members. Food delivery staff shall have their hands cleaned and sanitized. Food shall be fully cooked. Provision of cold meals and raw food shall be avoided.

8.4 Other Considerations

Airlines shall make available information on pandemic development by timely informing crew members of the latest local pandemic situation, and at the same time offer solid support for the crew members by providing food, daily necessities and adequate protective materials.

9. Quarantine Measures for the Crew Members Flying Domestic Flights

If a domestic flight carried COVID-19 positive passenger(s) (confirmed cases and asymptomatic infections), those crew members having contact with them shall quarantine collectively, while others having no such contact can be exempted from centralized quarantine. If a domestic flight carried close contacts, crew members can be exempted from medical observation at home as a secondary contact. In both cases, it's assumed that crew members have been personally well protected throughout the journey in accordance with the requirements in this Guideline.

All of the crew members mentioned above are required to monitor their health conditions and report promptly any abnormalities that may arise.

10. Prevention and Control Measures for Special Transport Tasks (Charter Flights)

Response measures shall be put in place as follows for special transport tasks performed.

10.1 Assessment of Passengers' Fitness to Fly

Passengers shall be assessed for their fitness to fly before enplaning. The assessment, focusing mainly on whether they are physically suitable for this specific flight, shall be done by relevant health department.

Before the carriage of passengers, relevant department of the airline shall check the health conditions of a randomly selected group of passengers. Confirmed cases,

asymptomatic infections, close contacts or those who can pose potential health risks shall not be transported on the same plane carrying healthy passengers.

Passengers are required to wear medical surgical masks or facial masks with better filtering efficiencies throughout the journey, and in case of KN95/N95 masks, the ones without breathing valves.

10.2 Temperature screening

10.2.1 Pre-boarding temperature screening

Prior to (during) boarding, flight attendants shall have passengers' temperature screened using calibrated non-contact infrared thermometer equipment, and at the same time have them monitored for possible symptoms. If any passenger is identified as being suspicious, his/her temperature shall be screened again immediately. If confirmed as a passenger with fever, he/she shall not be transported by air for the time being.

10.2.2 In-flight temperature screening

For a flight with a duration longer than 4 hours, flight attendants shall screen the temperature of a randomly selected group of passengers when necessary. If any passenger is identified as being suspicious, flight attendants shall respond as per the guidance on the handling of in-flight emergencies, issue a timely notification to the destination airport, and cooperate in the transfer of the passenger after landing.

10.3 Prevention and Control Measures for Crew Members

10.3.1 Cabin crew members: shall wear medical protective masks, goggles or face screen, disposable double-layer medical rubber gloves, disposable caps, disposable protective clothing, and disposable boot covers. It's recommended that cabin crew reduce the frequency of lavatory use and avoid using lavatory unless in special circumstances to reduce the risk of infection. They may wear disposable diapers.

10.3.2 Flight crew members: shall wear KN95/N95 masks, goggles, disposable medical rubber or nitrile gloves when there is a risk of exposure to COVID-19. Medical protective masks may be used instead along with disposable protective clothing and/or disposable shoe covers if so required by a specific task. Disposable medical surgical masks may be worn while operating in the cockpit.

10.4 Cabin Area Division

In order to avoid cross-infection, cabin area can be divided into clean area, buffer zone, passenger sitting area and quarantine area. Each area shall be clearly marked. It

is recommended that a disposable curtain be used for the physical separation of each area.

The division shall be based on the following principles (and can be adjusted based on different aircraft types):

10.4.1 Clean area: it is recommended that the front half of the cabin for both the first and business class be designated as a clean area for the exclusive use by crew members. The boarding gate connecting the clean area shall be reserved for the exclusive use by crew members. No one wearing protective clothing shall be allowed entry into the clean area.

10.4.2 Buffer zone: it is recommended that the rear half of the cabin for both the first and business class be designated as a buffer zone available for crew members to put on and take off protective clothing.

10.4.3 Passenger sitting area: it is the sitting area for healthy passengers.

10.4.4 Emergency quarantine area: the last three rows of seats shall be designated as the emergency quarantine area.

10.4.5 Lavatories: lavatories in the first-class cabin are to be used exclusively by crew members. Two lavatories shall be designated, to be used separately by flight and cabin crew. They need to be thoroughly disinfected after each use. The lavatory on the rear right side of the cabin is for the exclusive use by those under quarantine. Lavatories shall be cleaned and disinfected every 30 minutes or after use by 2-3 people during the flight, with hands cleaned and disinfected right after the completion of disinfection.

10.5 Procedure for Crew Members Deplaning

After landing, the aircraft shall park at a remote stand (no boarding bridge docking allowed) or a parking space shall be set aside for the exclusive use by charter flights. A special lane shall be set aside for crew members, to avoid a mixed flow with passengers. Passengers shall disembark through the rear cabin door, while the crew shall disembark through the front cabin door.

After all passengers have deplaned, flight crew members shall open the cockpit door and have their protective equipment changed in the clean area before deplaning.

After all flight crew have deplaned, the cabin crew should enter into the buffer zone one after another to remove their protective clothing and other equipment, then enter into the clean area to put on new protective equipment before deplaning. Crew members should be picked up by special vehicle(s), with inbound cabin crew and

flight crew being transported separately through closed-loop management.

10.6 Other Requirements

The prevention and control measures for in-flight service and passengers on board should be carried out in accordance with the requirements for high-risk flights.

11. Aviation Staff Mental Health Management

11.1 Regulate Mental Health Management

Efforts should be made to establish a safe and smooth psychological stress reporting channel in order to collect and analyze relevant information on psychological stress, stressor, and suggestions and opinions of aviation staff at regular intervals, to create dynamic mental health files, as well as to develop a plan for handling mental contingencies. Proper duty scheduling for flights shall be made after giving full consideration to crew members' psychological conditions, personality, family life pressures, social support system and other factors.

11.1.1 Aviation staff should be encouraged to pay attention to their mental health conditions and report bad ones, including emotional distress, caused by their work and/or life in a timely manner. At the same time, airlines should set up a dedicated mental health follow-up team to check on quarantined personnel in such areas as adaptability to quarantine, emotional changes and interpersonal exchanges, and to observe their emotional problems. Assistance should be offered to aviation staff in solving difficulties encountered and eliminating their psychological problems caused by work or life.

11.1.2 Mental health files shall be created to implement dynamic management, so as to keep abreast of the mental health conditions of front-line aviation personnel. Relevant information should be collected through questionnaire survey, expert assessment, voluntary reporting, and visit and inspection. If psychological problems have been identified among aviation staff, it should be immediately dealt with by a team of medical professionals specialized in psychological aid.

11.1.3 A support system for the staff providing psychological care to aviation staff should be established, by carrying out regular relaxation activities and sharing experiences, to improve service efficiency and quality.

11.2 Enhance Application of Professional Skills

An accessible mental assistance resource database should be provided with aviation staff, which shall include online mental health video lessons, emotion toolkit, and relaxation video and audio library. In addition, Employee Assistance Programs (EAP)

should be utilized to the greatest extent to provide various professional psychological services, including psychological counseling, hotline service, topic-specific micro-class, online lecture, art therapy, emotions and sleep training workshop and group psychological mentoring, provided by psychological professionals, so as to effectively ease the negative emotions of aviation staff, and enhance positive mental energy.

12. Use of Personal Protective Equipment (PPE)

A video on proper use of PPE is available on CAAC's website and <https://ams.caac.gov.cn>, which can be downloaded as appropriate.

Attachment 1

Recommendations of PPE Wearing for Crew Member and Inspector

Personnel Category	Flight Classification	Masks			Goggles/ Face Screen	Disposable Protective Suit	Disposable Medical Rubber or Nitrile Gloves	Disposable Shoe/Boot Covers	Disposable Medical Cap
		Disposable Medical Mask/Medical Surgical Mask	KN95/ N95	Medical Protective Mask					
Flight Crew	low-risk	√							
	medium-risk	√					○		
	high-risk		√		√		√		
Cabin Crew	low-risk	√					○		
	medium-risk		√		○		√	○	
	high-risk		√		√	○	√	○	○
	emergency handling			√	√	√	√	√	√
Inspector	low-risk	√					○		
	high-risk (non- passenger area) and medium-risk		√				√	○	
	high-risk (passenger area)		√		√	√	√	√	√

Note:

1. In the table, √ means that protective equipment is mandatory, while ○ means optional. The PPEs can be selected as appropriate based on the actual exposure risk and conditions.
2. If there is a risk of coming into contact with a large amount of vomits and splashes from passengers, protective screen can be chosen in place of goggles; while in an airtight and small space where aerosol could be easily generated, it is recommended goggles be preferred. In general, the goggles and the protective screen are not used at the same time.
3. Under special circumstances, the protective apron in the epidemic prevention bag can be used instead of disposable protective suit, as a short-term emergency response.
4. Double layer disposable rubber gloves should be worn during emergency handling.
5. Reusable goggles should be sterilized and dried every time after use. Goggles with anti-fogging films should avoid being wiped with disinfectant. Instead, it is recommended that they be washed with clean water before being exposed to close-range direct ultraviolet lighting for over 30 minutes in rooms with no person inside. If the crew members of an international/regional flight cannot disinfect the goggles in time during their staying abroad, goggles shall be provided for each flight segment.

Attachment 2

Aircraft Cleaning

Area	Items to Be Cleaned	Stopover Duration		Post-flight
		< 60min	> 60min	
Flight Deck	Clean tray tables and cup holders	If necessary	√	√
	Clean lockers and racks	If necessary	√	√
	Wipe pilot seats	If necessary	√	√
	Clean floor/vacuum carpet	If necessary	If necessary	√
	Clean windscreen	If necessary	If necessary	√
	Clean doors and wall panels	If necessary	If necessary	√
	Empty ashtrays (if installed)	√	√	√
Passenger Cabin	Dispose of wastes in closets	√	√	√
	Dispose of litter and newspapers	√	√	√
	Dispose of wastes in seat pockets	√	√	√
	Clean tray tables	If necessary	If necessary	√
	Clean cabin crew tray tables	If necessary	If necessary	√
	Clean interphone mic	If necessary		√
	Clean cabin windows			√
	Vacuum cloth-covered seats		If necessary	√
	Wipe leather-covered seats		If necessary	√
	Clean outside surface of the overhead bin and its latch	If necessary	If necessary	√
	Dispose of wastes in overhead bins		If necessary	√

	Clean floors			√
	Vacuum carpet		If necessary	√
	Replace pillows, headrest covers and blankets			√
	Clean seat-back screens and control panels			√
	Clean seats and armrests	If necessary	If necessary	√
	Clean and vacuum passenger seat cushions			√
	Remove carpet stains			√
	Clean seat rails, air outlets, ceiling, side wall panels, lockers, bulkheads and magazine racks			√
Galleys	Empty waste bins and waste bags	√	√	√
	Clean bulkheads, trolley brake blocks, ceiling and ventilation grille (air-conditioning outlets)	If necessary	If necessary	√
	Clean faucets and sink countertop	If necessary	√	√
	Clean retractable countertop	If necessary	√	√
	Clean ovens both inside and outside	If necessary	If necessary	√
	Clean galley trolleys	If necessary	√	√
	Clean floors	If necessary	If necessary	√
Lavatories	Empty waste bins and waste bags	√	√	√
	Clean toilet	√	√	√
	Clean sink, faucet and countertop	√	√	√
	Clean mirrors	√	√	√
	Clean baby care table	√	√	√

	Clean wall panels, door surfaces both outside and inside, handrails and latches	√	√	√
	Clean floors	√	√	√
	Replenish hand sanitizer	If necessary	√	√
	Replenish toiletry items	If necessary	√	√
Crew Rest Areas	Remove waste in lockers		√	√
	Remove litter/newspapers		√	√
	Remove bed sheets, and other items		√	√
	Clean pillows and blankets		√	√
	Clean control panels (reading lights and air conditioning) and interphone mic		√	√
	Vacuum carpet			If necessary
	Clean cabin crew seats		√	√
	Clean the surface of the inner layer of cabin window glass		√	√

Note: Dedicated rags and mops shall be used respectively for areas like aisle, toilet and gallery, and marked with different colors. Cleaning tools and articles shall not be used on a mixed basis among aircraft, and could only be used again after disinfection.

Appendix 1

Operating Procedures for Aircraft Preventative Disinfection

1. Operating Procedures for Preventative Disinfection in Cabin

1.1 Separate rags and mops should be used for aisle, lavatory and galley, and be marked with different colors. Designated personnel should be assigned to each of the aforementioned areas where conditions allow.

1.2 During disinfection, surfaces should be rubbed using rags soaked with disinfectant, and after a period of reaction, a regular cleaning process should be performed to avoid corrosive effect on cabin component due to long time exposure to the disinfectant.

1.3 Disinfectant should be sprayed onto cabin floor from the front to the back, followed by disinfection of key areas. Once cabin disinfection is finished, disinfectant should be sprayed onto cabin floor again from the back to the front.

1.4 Key areas should be disinfected in the following order:

1.4.1 Aisle: from outside to the inside and from upper places to lower places, overhead bins, reading lights, air outlets, side wall panels, windows, seats (tray tables, armrests, passenger control units, and decorative panels), lockers/closets, bulkheads, magazine racks and cabin crew seats.

1.4.2 Lavatory: from the heavily contaminated areas to lowly contaminated areas, disinfection of high-frequency contact surfaces should be progressed as follows: latches, door surfaces and doorknobs, sinks, toilet bowls and waste bins.

1.4.3 Galley: from upper places to lower places and from outside to the inside, ovens, water boilers, coffee makers, galley itself, lockers/drawers, and waste bins.

1.5 Disinfectants

Aircraft cleaning and disinfectant products should be issued with an airworthiness approval to avoid damage to aircraft components. The following disinfectants are recommended to be used, at a concentration set out in product users' manual.

As far as preventative disinfection is concerned, it is recommended to use quaternary ammonium salt or chlorine-containing disinfectant. Effective concentration of chlorine should be within the range of 250mg/L-500mg/L, with a reaction time of 10 minutes.

2. Operating Procedures for Preventative Disinfection in Cargo Hold

2.1 Ordinary spray disinfection or aerosol spray disinfection shall be used. Spray disinfection is suitable for the disinfection of object surface, and aerosol spray disinfection is suitable for disinfection of air and object surface. While spray disinfection is performed, the surface of the cargo hold shall be all moist.

2.2 The method of thorough disinfection should be used. Disinfectants should be sprayed from the ceiling to the floor and from the left to the right. Disinfection workers should spray and move backward at the same time, disinfecting the cargo hold in the following sequence: door, wall and floor. Finally, the floor should be sprayed again.

2.3 It is recommended to use quaternary ammonium salt as disinfectants, with the reaction time being the same as that of preventive disinfection in cabin. Attention should be paid to the selection of disinfectants that are not corrosive to the exposed carbon steel parts in the cabin. If it is impossible to determine corrosiveness of the selected disinfectant to carbon steel, the key parts made of carbon steel should be avoided in the disinfection operation.

2.4 After the disinfection is completed, cargo hold doors should be opened to remove the residual disinfectant particles floating in the air.

3. Operating Procedures for Preventative Disinfection of Cockpit

3.1 Cockpit doors and cockpit windows should be opened to ensure ventilation and reduce the risk of using alcohol-based disinfection products.

3.2 Frequently touched surfaces (such as joystick, microphone, headset, cockpit panel, tray tables and cup holders) should be wiped with disinfectant for disinfection. During disinfection, it should avoid forming water droplets and prevent leakage.

3.3 Disinfection should be made in the following order: from upper places to lower places, from outside to the inside, and from heavily contaminated areas to lowly contaminated areas, with repeated round-trip wiping being avoided.

3.4 During disinfection, after a period of reaction, a regular cleaning process should be performed to avoid corrosive effect on surfaces due to long time exposure to the disinfectant.

3.5 A required inspection or review mechanism should be established in order to prevent misoperation of switches during disinfection.

3.6 Cockpit cleaning and disinfection methods and relevant products should meet the requirements of aircraft manufacturer or appropriate airworthiness standards so as to avoid damage to aircraft structure and its equipment. Product concentration should be

determined in line with product instructions.

Appendix 2

Operating Procedures for Aircraft Concurrent Disinfection

Aircraft concurrent disinfection should abide by the following procedures contained in Emergency Medical Equipment Installation and Training for Large Transport Aircraft (AC-121-102R1 issued by CAAC):

1. Wear personal protection equipment.
2. Prepare disinfectant: put one surface disinfection tablet into 250-500ml clean water to make a 1:500-1000 disinfectant.
3. Cover the respiratory secretions, blood, vomit, excretions and other contaminants evenly with absorbent disinfectant for 3-5 min to enable them to be solidified.
4. Shovel the coagulated contaminants with portable pickup shovels into biohazard waste bags.
5. Sterilize twice the contaminated area with pre-prepared disinfectant, make sure disinfectant stays on the contaminated surface for 3-5 minutes, then wash the area twice with clean water before drying the area with towels. Put those towels and other used disinfectants into a biohazard waste bag.
6. Disinfect hands before removing protections in the following order: take off protective suits (aprons), gloves, apply skin disinfection wipe for hand disinfection; then take off goggles, facial masks, and finally apply skin disinfection wipe to clean hands and other parts of the body that may have been exposed to contaminants.
7. Put all used protection gears and contaminated items into biohazard waste bags, seal the bags, and stick a "Biohazard Waste" label close to the seal.
8. Keep the sealed biohazard waste bags in a proper place temporarily to prevent them from being lost, damaged or contaminating meals on board.
9. Inform relevant ground handling agents at the destination to make preparation as required.

Appendix 3

Operating Procedures for Aircraft Terminal Disinfection

1. Aircraft Cabin Terminal Disinfection

1.1 After all occupants get off the aircraft, close cabin doors, and set the air conditioner to its maximum capacity to allow at least one complete cycle of ventilation in the cabin area.

1.2 Once the ventilation is over, the sitting area of the passengers with suspicious symptoms and lavatory should be disinfected before proceeding with the thorough terminal disinfection from periphery to center and from top to bottom.

1.3 After disinfection, the passenger cabin should be cleaned in accordance with the post-flight cleaning requirements.

1.4 For a stop-over flight carrying suspected cases, as a first move, its sitting areas should be disinfected during the stop-over, and after end of the flight, a terminal disinfection shall be conducted covering the whole cabin.

1.5 In principle, air conditioning system should be turned off during the disinfection, and the air conditioning system should be turned to minimum wind speed during hot weather conditions.

2. Aircraft Cargo Hold Terminal Disinfection

2.1 When animal remains or suspicious contaminants of a contagious nature are found in the cargo hold, the contaminated area in which the animal remains or the contaminants were should be disinfected and cleaned as the first step, followed by a thorough disinfection of the remaining areas of the cargo hold.

2.2 Thorough spray disinfection should be conducted. Disinfection should be performed from upwind to downwind and from top to bottom.

2.3 Before disinfecting the inside area of the cargo hold, spray around the door, enter the cargo hold, and spray on the floor while moving forward till the whole floor is sprayed before disinfecting other areas of the cargo hold.

2.4 Disinfect the cargo hold by spraying disinfectant from left to right and vice versa, and then spray the cargo hold wall from top to bottom. The amount of disinfectant sprayed should not exceed the amount of the liquid that can be absorbed (the maximum amount of disinfectant the surface can absorb).

2.5 Upon completion, disinfect the cargo hold floor once again by spraying while moving backward. After returning to the ground along the ladder, disinfect the ladder by spraying, and close the door for disinfection reaction to be completed.

2.6 Air conditioning system should be turned off during the disinfection and the cargo hold should be fully ventilated after disinfection.

3. Operation Procedures for Cockpit Terminal Disinfection

3.1 Before terminal disinfection, open the cockpit door and windows to ensure ventilation and to minimize the hazards arising from the use of alcohol-based disinfectant. APU powered ventilation may also be used.

3.2 Disinfection of high-touch surfaces (e.g. control sticks, microphones, ear phones, cockpit panels, tray tables and cup holders etc.), should be wiped for disinfection. Splashes of water drops during the wiping should be avoided to prevent seepage. Disinfection of precision equipment such as central operating console is not recommended.

3.3 Infusing disinfection is recommended for textile surfaces, and if impossible, without compromising flight safety, one-time seat covers may be used. The surface of textile should be fully covered, and in principle the seat covers can be used for 24 hours or can be changed based on flights.

3.4 Disinfection should follow the following order: from upper places to lower ones, from outside areas to inside areas, from slightly contaminated areas to heavily contaminated ones. Repetitive and back-forth wiping shall be avoided.

3.5 Wiping of windscreen with alcohol-based disinfectant (alcohol or isopropanol) is prohibited.

3.6 The cockpit cleaning and disinfection methods shall abide by requirements of aircraft manufacturers and those for airworthiness to prevent mis-operation of ignition switches and other switches. Necessary mandatory check or re-check mechanism should be established.

4. Disinfectant

Aircraft cleaning and disinfection products for passenger cabin and cargo hold shall receive airworthiness approvals. During terminal disinfection, the passenger cabin should be wiped while the cargo hold should be wiped or sprayed with disinfectant. Liquid concentration and reaction time should be in line with what's specified in product users' manual.

It is recommended to use chlorine-based disinfectant or quaternary ammonium salt disinfectant for terminal disinfection. The effective concentration of chlorine should be 1000mg/L, with a reaction for 30 minutes, and effective concentration of quaternary ammonium salt disinfectant should be 2000mg/L, with a reaction for 30 minutes. Attention should be paid to the selection of disinfectants that are not corrosive to the exposed carbon steel parts in the cabin. If it is not possible to determine whether the selected disinfectant is corrosive to carbon steel, the key parts made of carbon steel should be avoided in the disinfection operation.

The cockpit cleaning and disinfection methods and products shall abide by requirements of aircraft manufacturers and those for airworthiness to avoid damages to the aircraft structure and equipment. Disinfectant instructions should be referred for the concentration.

Appendix 4

Procedures Personal Protection Equipment (PPE) Wearing and Removing

Hands shall be cleaned and disinfected immediately before wearing and after removing Personal Protection Equipment (PPE). If possible, two supervisors should be arranged to oversee wearing and removing of protective clothing and implement the disinfection measures in the process of removing.

All PPEs used in the high-risk/medium risk flights and used for handling suspected passengers shall be disposed of as infectious wastes, while reusable PPE shall be disinfected at a designated site.

1. Procedures for Wearing PPE

- 1.1 Clean and disinfect hands.
- 1.2 Wear face mask (an air tightness test is required for medical protective masks).
- 1.3 Wear disposable cap.
- 1.4 Wear inner gloves.
- 1.5 Wear one-piece protective clothing (put on protective clothing cap).
- 1.6 Wear goggles.
- 1.7 Wear outer gloves after checking air tightness, with the cuffs of the gloves covering the cuffs of the protective clothing.
- 1.8 Wear inner shoe covers.
- 1.9 Wear boot covers.
- 1.10 Clean and disinfect hands.

2. Procedures for Removing PPE

- 2.1 Leave the contaminated area to the buffer zone (must not contaminate others).
- 2.2 Clean and disinfect hands.
- 2.3 Remove goggles. Reusable goggles shall be put directly in disinfectant for disinfection, or placed in a double-layer yellow medical waste bag to be sent for disinfection at a designated site.
- 2.4 Clean and disinfect hands.
- 2.5 Remove protective clothing and boot covers, and outer gloves, turn them inside out, and put them in a yellow medical waste bag.
- 2.6 Clean and disinfect hands.
- 2.7 Remove shoe covers and inner shoe sheaths.
- 2.8 Remove inner gloves.
- 2.9 Clean and disinfect hands.
- 2.10 Put fingers into the cap, gently take it off, turn it inside out, and put it in a yellow medical waste bag.
- 2.11 Remove face mask and avoid touching face with hands.

2.12 Clean and disinfect hands.