



GHANA CIVIL AVIATION AUTHORITY

SI/ASAS/02/2020

31ST AUGUST 2020

SAFETY INSTRUCTION

SUBJECT: INSTRUCTION ON RESUMPTION OF AIRPORT OPERATIONS AMIDST COVID-19 PANDEMIC

PURSUANT to the powers conferred on the Director-General by section 9(2) of the Ghana Civil Aviation Act, 2004, ACT 678, the following Safety Instructions shall be applied and enforced for Aerodrome Operators and all persons accessing the airside, sterile areas and security restricted areas of all aerodromes in the Republic of Ghana and shall come into force on 31ST August 2020 at 00:00 UTC:

GENERAL

This Instruction seeks to guide the aerodrome operator and the aerodrome environment on acceptable standards, practices and procedures that the Authority in collaboration with Ghana Health Service (Port Health) have found to be Acceptable Means of Compliance (AMC) with the Ghana Civil Aviation (Aerodrome) Directives during the Covid-19 period for proposed resumption of operations.

Considering the impact of Covid-19 transmission on air transport in general and specifically on airport operations, there is the need for contingency arrangements to be made to manage and reduce the risks of the spread of transmission in order to protect the health of air travelers and aviation personnel. Special attention is given to the facilitation of entry, departure and transit of aircraft to ensure sustainability of the global air transport in the country.

In effect the following comprehensive framework of risk-based temporary measures for air transport operations shall be observed by all service providers during the COVID-19 crisis.

These measures include:

- a. **Physical distancing** to the extent feasible and implementation of “adequate risk-based measures where distancing is not feasible;
- b. **Wearing of face masks** by all passengers and aviation workers;
- c. **Routine sanitation and disinfection** of all areas with potential for human contact and transmission;

- d. **Enhanced Health screening protocols**, which could include pre and post-flight self-declarations, as well as temperature screening, and visual observation, “conducted by Ghana Health Service (Port Health) professionals”;
- e. **Contact tracing** for passengers and aviation employees. Thus, updated contact information should be requested as part of the health self-declaration, and interaction between passengers and governments should be made directly through government portals;
- f. **Passenger health declaration forms**, including self-declarations in line with the recommendations of Ghana Health Service (Port Health). Electronic tools should be encouraged to avoid paper;
- g. **Testing**: if and when real-time, rapid and reliable testing becomes available. Travelers are required to present a COVID-19 test certificate in line with Ghana Health Service guidelines.
- h. **Public Education**: stakeholders shall work together to distribute accurate information quickly. Information must be as clear, simple and consistent as possible across the entire passenger travel experience.
- i. **Travel Insurance**: all travelers are required to have internationally accepted travel cover.
- j. **Crew Status**: airline crew are required to submit evidence of their COVID-19 status using the “ICAO provided Crew COVID-19 Status Card Form” to the Authority.
- k. **Aircraft Disinfection**: Aircraft operators are required to disinfect aircraft and submit evidence using the ICAO provided “Aircraft COVID-19 Disinfection Control Sheet”

Note: All COVID-19 related Documents and Forms can be accessed on the Ghana Civil Aviation Authority website on www.gcaa.com.gh

Detailed measures shall include;

1. Before Entry into Terminal Building (Departure)

- a. All persons entering the terminal building must wear a face mask;
- b. All passengers and other users of the terminal building must maintain a minimum of at least 1 metre with other persons;
- c. All persons entering the terminal building shall be subjected to a mandatory temperature check;
- d. All persons entering the terminal building must observe hand hygiene (either hand washing with running water and soap or use of alcohol hand rub);
- e. Persons showing any clinical symptoms or signs such as fever, cough, sneezing or runny nose will be subjected to further questioning by Port Health Staff;

2. In the Terminal Building

- a. All persons in the terminal building including airline staff shall maintain a minimum of at least 1 metre from the next person except for couples or persons with children;
- b. Hand sanitizers shall be used by all airline staff each time they attend to a passenger at check-in. Airline staff at check-in counters must not use gloves during the handling of passenger documents such as ID cards, Passports, tickets and boarding passes;
- c. Baggage handlers must sanitize their hands after handling each passenger's bag;
- d. All hand baggage must be disinfected after handling by the airport security staff;
- e. During check-in, passengers must be advised to have personal bottles of alcohol-based hand sanitizers;
- f. During check-in, all passengers will be required to answer questions in relation to any disease outbreaks symptoms and history of contact with a confirmed disease.

3. Before Boarding Aircraft

- a. All passengers at the boarding gate must maintain a minimum of at least 1 metre with other persons. In case of high numbers, there must be controlled entry to the boarding area;
- b. Airline staff checking the boarding passes of passengers must sanitize their hands;
- c. Passengers should be guided to detach the duplicate boarding pass so they can be handled by airline staff who may wear gloves at this point;
- d. All passengers shall sanitize their hands before entering the aircraft;

4. On-board Aircraft

- a. All passengers and crew shall wear face masks during the entire duration of the flight
- b. Food-preparation procedures should be simplified, pre-packaged food should be provided for the entire duration of the flight.
- c. All passengers shall have in their possession personal samples of alcohol hand sanitizers;
- d. Passengers shall use hand sanitizers before disembarking from the aircraft.

5. Arrival

- a. Passengers shall maintain the use of the face mask during disembarkation, boarding of ground transport from aircraft to terminal building and during baggage reclaim until exit of terminal building;
- b. Passengers shall be required to continue using face masks after exiting terminal building and especially if using passenger vehicles;
- c. Passengers must use hand sanitizers before exiting the terminal building.

6. Aircraft Cleaning

- a. All airlines shall ensure that aircrafts are thoroughly cleaned under the supervision of Port Health staff after each trip;
- b. Cleaning shall include all surfaces in the aircraft arm rests, head rests, baggage compartments, washrooms, etc and shall involve the use of approved disinfectant.

7. Ground Handling

- a. Ensure orientation and sensitization of crew on Infection, Prevention and Control (IPC) as per guidance from Port Health Staff.
- b. Ensure they have adequate stock of Personal Protective Equipment (PPE) and Universal Precaution Kits (UPK) on operational areas.
- c. Ensure personnel wear the necessary PPEs in the line of duty.
- d. Ground Handlers are to ensure that all workers wear a face mask for the duration of working hours as well as ensure a safe distance is maintained among staff members to avoid direct physical contact.

SUPPLEMENTARY PUBLIC HEALTH AND SOCIAL MEASURES FOR CONSIDERATION

AIRPORTS	General Check-In Area Measures	
	Planning and monitoring	Implement measures that reduce congestion through advanced-planning and monitoring of passenger flows.
	Signalization and barriers	Signage, floor markings and announcements via Public Address system to encourage physical distancing. Retractable stanchions and floor signage in the queuing area and transparent barriers in front of staff.
	Kiosks	Use of boarding pass/baggage tag kiosks and baggage drop to reduce face-to-face interactions, but with careful attention to the management of passenger flow and keeping such devices adequately and constantly disinfected.
	Home check-in	Passengers should be encouraged to complete check-in processes prior to arriving at the airport.
	Advanced technology	Self-sanitizing technology may be considered for integration within kiosks

		touch screens, to allow for the disinfection of the screen between each use. Whenever possible, use contactless processes and technology, including contactless biometrics such as facial or iris recognition to reduce the need for contact with travel documents between staff and passengers.
	Security Screening Measures	
	Physical distancing/PPE	Screeners and passengers should maintain physical distancing to the extent possible or wear the appropriate PPE to mitigate the risk of exposure. Physical distancing shall remain in place until informed by Ghana Health Service that it is safe to relax them.
	Staff and crew screening	Whenever screening checkpoints are processing a high number of passengers, staff and crew screening should be performed in dedicated checkpoints and separately from passengers.
	Alarm resolution	Where possible, alarm resolution should be conducted in a dedicated area separated from the flow of passengers. For walk through metal detector (WTMD) alarm resolution, prioritize the use of handheld metal detectors to identify the cause of alarm followed by a targeted manual search where the alarm is.
	Use of ETD and EDD	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.
	Manual search	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 should use a face mask.
	Passenger health-related liquids	Quantities of health-related liquids, aerosols and gels (LAGs) as prescribed by GCAA security instructions, such as alcohol-based hand disinfectants, is permitted for aviation security and safety.
	Hand sanitizers	Hand sanitizers and disinfection products should be provided prior to passengers and staff screening access points where possible.
	Access and layouts	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.
	Markings	Markings should be established on the ground within the queueing area to indicate the proper distancing recommended by the Ghana Health Service.
	Procedures	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.
	Divesting areas	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).

	Cleaning and disinfection	Automated gates and mobile scanners' reader surface should be disinfected with the same frequency as for any other high-touch surface. Routine enhanced cleaning and disinfecting should be conducted, if needed, of frequently touched/exposed surfaces and security screening equipment.
	Staff sanitation	Alcohol-based hand sanitizer should 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.
	Signage and information	Appropriate signage and information to passengers should be clearly displayed regarding newly implemented health requirements, as well as modified screening processes.
	Terminal Building Measures	
	Cleanliness and disinfection plan	A written plan for enhanced cleaning and disinfection should be agreed between the airport health, airport operators, and service providers, according to the WHO Guide to Hygiene and Sanitation in Aviation. The plan needs to be kept updated in terms of process, schedule and products, when new information becomes available.
	Frequency and method	Cleaning and disinfection of terminal infrastructure and all equipment should be done on a regular basis in accordance with the aforementioned plan, and its frequency should be increased as needed based on traffic. Cleaning and disinfection staff should be made aware of using products effectively (concentration, method and contact time of disinfectants), and addressing areas that are frequently touched and most likely to be contaminated, such as information desks, counters, seats, stanchions, self-service kiosks, check-in/immigration/customs/security/boarding

		areas, screening equipment, escalators and lifts, handrails, washrooms, luggage trolleys, conveyor belts, automated gates and mobile scanners, reader surfaces, parking shuttle buses and airside buses.
	Air conditioning and filtration systems	Increase the use of air conditioning and effective filtration systems to keep air clean, reduce re-circulation and increase the fresh-air ratio. Horizontal airflows should be limited.
	Applicability	Applied to the maximum extent possible throughout the airport and re-evaluated as epidemiological conditions permit.
	Physical distancing	Physical distancing should target reaching at least one (1) meter between all individuals.
	Passenger face masks	Passengers should wear masks or other face coverings in accordance with Ghana Health Service and WHO guidelines.
	Mutual recognition	Mutual recognition of equivalent physical distancing measures that mitigate the health risks at the point of departure and of arrival is encouraged.
	PPE for staff	The level of adequate protection for staff members should be evaluated on a case by case basis. Such protection may include personal protective equipment (PPE), health screening programme for staff, scheduling (keeping group of staff in steady teams and shifts), easy alcohol-based hand sanitizer access. Prioritize maintenance and repair work and adjust schedule or postpone it if it's non-essential.
	Type of PPE	Employees should be equipped with Personal Protective Equipment (PPE) based on the risk of exposure (e.g. type of activity) and the transmission dynamics (e.g. droplet spread). PPE could include gloves, masks, goggles or a face shield, and gowns or aprons or anti-bacterial wipes.

	Physical separators	Physical separators between staff and passengers in areas of repeat exchanges and transactions.
	Access restrictions	According to advise to Ghana Health Service advise, airport terminal access may be restricted to workers, travellers and accompanying persons in situations such as for passengers with disabilities, reduced mobility or unaccompanied minors in an initial phase, as long as it does not create crowds, congestions and queues.
	Thermometers	Where health screening is required, non-contact thermometers should be used.
	Terminal Airside Area Measures	
	Self-service options	Self-service options, where passengers have limited contact with retail, food and beverage staff.
	Boarding process	An orderly boarding process will be necessary to reduce physical contact between passengers, especially once load-factors start increasing. Airlines will need to revise their current boarding processes. Airports may need to assist in redesigning gate areas and advise the Authority. The increased use of automation, such as self-scanning and biometrics should be facilitated.
	Carry-on baggage	Especially during the early stages of the restart phase, carry-on baggage that would need to use the overhead bins should be limited to facilitate a smooth boarding process.
	Self-boarding technologies	Where possible, implementation of self-boarding technologies at the gate should be considered including units using automatic doors, integrated boarding pass readers, LCD displays for passenger instructions and

		a device for printing seat assignment changes. Increase use of self-scanning of documents when identification is needed.
	Seating and service areas	As a temporary measure, sitting areas (e.g. lounges, gates, restaurants) can open at limited capacity to accommodate the short-term need for physical distancing. Temporary closing or enhanced monitoring of certain service areas should be considered, based on the stage of mitigation measures, such as self-service buffet food, café or multi-purpose seating, smoking areas, children's play areas.
	Touch-free equipment in toilet facilities	Installation of touch-free equipment in toilet facilities such as the following should be considered: automated door systems, automatic toilet flushing system, taps and soap/hand sanitiser dispensers, automated hand towel dispensers.
	Aircraft Terminal Gate Equipment	
	Testing of electromechanical equipment	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	Maintenance protocols need to be defined and deployed.
	Pre-conditioned air (PCA)	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.

	Auxiliary Power Unit (APU)	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.
	Disembarking and Arrivals	Operators and service providers in collaboration with GHS are to develop "one-stop" health screening arrangements using existing one-stop security arrangements as a model.
	Coordination with government	The Authority will ensure coordination with various border regulatory authorities (e.g., Ghana Air Force, immigration, Ghana Health Service, Customs, National Security, etc) for facilitating the clearance of entry/arrival, such as enabling contactless processes (e.g. relating to the reading of passport chips, facial recognition). Where declarations are needed on arrival (e.g. mobile applications and QR codes) to minimize human-to-human contact. Information could be sent in advance via government portals for processing ahead.
	Biometric and contactless technology	The identity verification process should be automated with the use of biometric technology. Use of contactless technology, automated border control or eGates is encouraged in order to enhance transaction time and limit interaction between passengers, officers and staff. Smart thermal cameras can be installed to scan the temperature of multiple passengers rapidly and unobtrusively.
	High-risk areas arriving flights	Airports should have a plan for flights arriving from higher-risk areas where there are cluster or community transmission, a particular section of the arrivals terminal could be utilised to increase physical distancing, and/or smart thermal cameras could be placed at appropriate locations to screen arriving passengers, in consultation with the public health staff.

	Health assessment	During initial stages of recovery and if needed, secondary health assessments could be set to maintain the main general flow of passengers. Thermal screening can be conducted prior to the customs hall, but individual passenger health assessments should be avoided so as not to have a drastic impact on throughput resulting in more queues.
	Health declaration	Implementing a health declaration solution that can be set-up on a web portal is highly encouraged to assist in data collection and information sharing among Government Agencies.
	Transfer	Develop “one-stop” health screening arrangements using existing one-stop security arrangement as a model. A similar arrangement for health screening procedures may prevent new queuing points at passenger transfer locations. Where transfer security screening is needed, it should follow appropriate sanitary requirements as previously described in the departure process.
	Baggage Claim Area	
	Claim process	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. The use of retractable stanchions and floor markings should be considered as a temporary measure to encourage physical distancing at the baggage carousel.
	Customs clearance	The customs clearance process should be as speedy as possible and that appropriate measures are taken in case of physical baggage inspections.

	Cleaning schedules and protocols	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. Protocols for cleaning and disinfection of the area should be established.
	Lost or damaged luggage	Self-service kiosks or online options for passenger needing to report lost or damaged luggage should be made available. Airline agents at lost luggage counters should be provided with a protective transparent separator when possible.
	Baggage tracking	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.
	Exit the Landside Area	
	Access restrictions	On the recommendations of GHS, airport terminal access may be restricted to workers, travellers 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.
	Sanitizing	Multiple hand washing stations or hand sanitisers should be provided prior to the exit of the terminal building.
	Cleaning frequency	Cleaning should be increased based on flight schedules to ensure a more frequent, in-depth disinfection of landside public areas, including seating areas, food and beverage and retail, handrails, washrooms, automated moving systems and buses.
AIRCRAFT	Passenger and Crew – General	

	Boarding and disembarking process	Adjust the boarding process. To the extent possible and consistent with weight and balance considerations, the boarding and disembarking of passengers should be conducted in ways that reduce the likelihood of passengers passing in close proximity to each other.
	Seat Assignment	Seat assignment processes is recommended. Passengers should also be encouraged to stay in the assigned seat as much as possible.
	Limited interactions onboard	Limit interaction on board. Passengers should be encouraged to travel as lightly as possible with all luggage checked-in except small hand luggage that fit under the seat. Newspapers and magazines should be removed. The size and quantity of duty-free sales may also be temporarily limited.
	Limit or suspend food and beverage services onboard	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.
	Crew protection measures	Crew protection measures. Sharing of safety equipment used for safety demonstrations should be prohibited. 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.
	Latest joint aircraft original equipment manufacturer (OEM) recommendations concerning disinfection	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.
	Disinfection – Flight Deck	
	Cleaning frequency	Frequency of cleaning of the flight deck should account for the separation of the flight deck from the passenger compartment as well as for the frequency of crew transitions. The flight deck should be cleaned and disinfected at an appropriate frequency to accommodate safe operations for the crew.
	Disinfectant	Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) as a disinfectant for the flight deck touch surfaces. Appropriate health organizations should be referred to for instruction on application to be effective against viruses. 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.
	Application method	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.
	Flammability precautions	IPA is flammable, so precautions should be taken around potential sources of ignition.
	Potential application damage	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.
	Switch positions	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.
	Additional disinfection	Some equipment on the flight deck may have additional disinfectant needs based on usage (e.g. oxygen masks) and procedures should be put in place accordingly.
Disinfection – Passenger Cabin		
	Cleaning frequency	The cabin should 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.
	Disinfectant	Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) as a disinfectant for the touch surfaces. Appropriate health organizations should be referred to for instruction on application to be effective against viruses. 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.
	Application method	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 cabin. Do not allow the liquid to pool or drip into equipment (e.g. in-flight entertainment electronic boxes).
	Flammability precautions	IPA is flammable, so precautions should be taken around potential sources of ignition.

Potential application damage	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.	
Review of operating procedures	Airlines may wish to review their operating procedures to minimize the number of personnel who need to contact high-touch surfaces such as access panels, door handles, switches, etc. For more detailed recommendations or additional disinfecting chemicals, reach out to the specific airframe manufacturer.	
Disinfection – Cargo compartment		
Cleaning frequency	The cargo compartment touch surfaces should be cleaned and disinfected at an appropriate frequency to accommodate safe operations for the ground staff.	
Disinfectant	Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) as a disinfectant for the touch surfaces. Refer to appropriate health organizations for instruction on application to be effective against viruses. Refer to the OEM's instructions 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.	
Application method	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).
	Flammability precautions	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.
	Potential application damage	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.
	Review of operating procedures	Airlines may wish to review their operating procedures to minimize the number of personnel who need to contact high-touch surfaces such as access panels, door handles, switches, etc.
	Disinfection – Maintenance	
	Air and water systems	Airlines should 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 should refer to the Airframe OEM for specific maintenance actions and intervals.
	Safe environment	Airlines should include access panels and other maintenance areas in their disinfection procedures to ensure a safe environment for the maintenance crews.
	Review of operating procedures	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.
	Maintenance procedures after disinfection	Airlines should 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.
	Air System Operations	
	Air conditioning systems	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.
	Packs	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).
	Non-HEPA filters	If non-HEPA filters are installed, contact the aircraft OEM for recommendations on recirculation settings.
	Packs during take-off	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.
	Cabin ventilation	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.
	Airflow	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.
	Sick Passenger Positioning	Separate the ill person from the other passengers by minimum of 1 meter (usually about two seats left empty in all directions, depending on the cabin design) from the seat occupied by the suspected case. Where

		possible this should be done by moving other passengers away.
	Maintenance procedures	Follow normal maintenance procedures as specified by the OEM. Take note of special protection and handling of filters when changing them.
	Microbiological contamination	Contact OEM or refer to OEM published document to check if an additional sanitization procedure and/or personnel health protection is needed to avoid microbiological contamination in the filter replacement area.
	Crew	
	Members	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.
	Layover quarantine exemption	Crew members, maintenance and cargo/load specialized personnel who are involved in flights with a layover, should 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. GCAA has implemented measures that facilitate the continued operation of aircraft, such that: <ul style="list-style-type: none"> • 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 travellers. • Health screening methods for crew members are as non-invasive as possible.
	COVID-19 symptoms monitoring	Crew members should monitor themselves for fever, cough, shortness of breath, or other symptoms of COVID-19. A WHO common cut off point for fever is 38°C or higher. Crew

		members should take their temperature at least twice per day during duty periods and at any time they feel unwell.
	COVID-19 symptoms development	Crew members 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.
	Crew exposure concerns	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/medical 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.
	Physical distance	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.
	Hands wash	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.
	Avoid touching one's face	Be reminded to, along with frequent hand washing/sanitization, avoid touching their face including while wearing gloves.

	Face cover/ mask	Wear a face covering/ mask while around other people, especially in situations where the recommended physical distance from others cannot be maintained. Note: A face covering should not replace the use of surgical masks or other PPE provided in the universal precaution kit (UPK) when interacting with a sick traveller on board an aircraft.
	Avoid contact	Avoid contact with people with a cough, fever, or shortness of breath or otherwise suspected of having COVID-19.
	UPKs	Inspect and verify contents of the UPKs 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 traveller on board.
	Cleaning and disinfectant products	Provide sufficient quantities of cleaning and disinfectant products (e.g. disinfectant wipes) that are effective against COVID-19 for use during flight.
	Face cover for crew members	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 where practicable, in order to limit the potential for infection from passengers.
	Cross infection avoidance	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.
	Own provisions	Where some airlines issue each crew member with their own provisions and the cabin crew members should be responsible for ensuring that they are removed and bagged after use.
	Bulk loading	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.
	Cleaning frequency	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.
	Flight Crew	
	Access to the flight deck	Access to the flight deck should be limited to the greatest extent possible.
	Flight deck leave	Flight crew members should only leave the flight deck for short physiological breaks and scheduled rest.
	Flight crew with symptoms	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.
	Oxygen masks	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.
	End of flight/day	When leaving flight deck, all items should be stowed, personal items removed, and flight-deck is ready for cleaning and disinfection.
	Cockpit crew change sanitation	Prior to each cockpit crew change, the flight-deck should have been fully sanitized.
	In-person interactions with the cabin crew	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.
	External inspection of the aircraft	Only one member of the flight crew or technical crew should be allowed to disembark the aircraft to complete the external inspection, refueling, etc., in such case direct contact with the ground crew should be avoided.

	Cabin Crew	
	Contact with suspected infected passengers	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.
	Flight crew checks	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.
	Use of PPE during abnormal and emergency procedures	The use of PPE should 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	Safety demonstration equipment should 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	Safety demonstrations should highlight to passengers that face coverings should be removed before donning emergency oxygen masks, should they be needed.
	Layover	
	Commute arrangements	Commute arrangements (between airport and hotel, if needed): The air operator should arrange for the commute between the aircraft and the crew's individual hotel rooms ensuring hygiene measures are applied and the recommended physical distancing, including within the vehicle, to the extent possible.
	At accommodation	a) At all times, the crew must comply with relevant Ghana Health Service guidelines and policies. b) There should be one crew member per room, which is sanitized prior to occupancy. c) The crew, taking account the above, and insofar as is practicable, should; i. Avoid contact with the public and fellow crew members, and

		remain in the hotel room except to seek medical attention, or for essential activities including exercise, while respecting physical distancing; ii. Not use the common facilities in the hotel; iii. Dine in-room, get take-outs or dine seated alone in a restaurant within the hotel, only if room service is not available; iv. Regularly monitor for symptoms including fever; and v. Observe good hand hygiene, respiratory hygiene and physical distancing measures when needed to leave the hotel room only for the reasons specified in (i), (iii) or emergency situations.
	Crew members with symptoms of COVID-19	Crew members experiencing symptoms suggestive of COVID-19 during layover or transit should: a) Report it to the aircraft operator and seek assistance from a medical doctor for assessment of possible COVID-19. b) Cooperate with the assessment and possible further monitoring for COVID-19 in accordance with the evaluation procedure implemented by the Ghana Health Service (e.g. assessment in the hotel room, or an isolation room within the hotel, or alternative location).
	Repatriation to home base	If a crew member has been evaluated and COVID-19 is not suspected in accordance with the above procedures implemented by Ghana, the air operator may arrange for the crew member to repatriate to base. If a crew member is suspected or confirmed as a COVID-19 case by the GHS and isolation is not needed, such crew member could be medically repatriated by appropriate modes; if there is agreement to repatriate the crew member to home base.
CARGO	Road Feeder to Freight Reception & freight pick up	
	Document handover	Proximity for document handover should be minimized, floor markings should be indicated and / or appropriate PPE should be worn.
	Sanitation	Wherever possible, hand washing, or alcohol-based hand sanitizer should be placed on entry. Surfaces (e.g. handles, kiosks) should be regularly cleaned and disinfected Alcohol-based hand sanitizer should be made available for users of kiosks, etc.

	PPE donning and doffing areas	Area(s) for donning and doffing of appropriate PPE as needed should be identified.
	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.
	Document exchange	Digital document systems and data exchange should be implemented wherever possible.
	Physical distancing	Physical distancing of at least 1 meter should be kept between all parties where possible, use of floor markings or wearing the appropriate PPE.
	Document signing	Where physical documents need to be signed, each signatory should do so with their own pen.
	Physical barriers	Physical barriers should be installed (transparent) at counters and reception.
	Sanitizer in common areas	Alcohol-based hand sanitizer should be made available when entering or exiting common areas.
	MHE	To avoid cross contamination, MHE should be cleaned and disinfected after use.
	Personal hygiene	Employees should be educated and should practice personal hygiene principles.
	PPE	Appropriate PPE should be worn where necessary.
	Within Cargo facility (Origin / Destination / Transit)	
	Physical distance	Physical distance should be kept at all times when operational safety is not compromised.
	Handover	Close proximity for handover minimized (e.g. drop zones) or appropriate PPE should be worn.
	Crew rotations	Crew rotations should be maintained for 14-day periods to avoid cross-infection.
	Sanitizer	Alcohol-based hand sanitizer should be placed on entry into common areas. Sanitizer should be made available for users of kiosks, shared mobile devices, and other shared devices.

	Cleaning and disinfection	Regular cleaning and disinfection of surfaces (e.g. handles, mobile devices, kiosks) should be established.
	Physical handling goods	Physical distance should be kept when operational safety is not compromised. When not possible (e.g. 2-person lift needed for heavy cargo) appropriate PPE should be worn.
	MHE and GSE	To avoid cross contamination MHE and GSE should be cleaned and disinfected between uses.
	Personal hygiene	All employees should be educated and should practice personal hygiene principles.
	PPE	Appropriate PPE should be worn where necessary.
	Cargo facility to ramp (Origin / Transit / Destination)	
	Physical distance	Physical distance should be kept at all times when operational safety is not compromised, or appropriate PPE should be worn.
	Cleaning and disinfection	Regular cleaning and disinfection of surfaces (e.g. handles, kiosks) should be established. Alcohol-based hand sanitizer should be made available for users of kiosks, shared mobile devices, etc.
	Handover	Close proximity for handover should be minimized (e.g. drop zones) or appropriate PPE should be worn.
	Crew rotations	Crew rotations should be maintained for 14-day periods to minimize cross team infection.
	Physical handover of goods	Physical distance should be maintained, and cargo drop zones used where possible. Close contact of personnel should be limited, and appropriate PPE should be worn where necessary.
	Ground support equipment (GSE) usage	To avoid cross contamination, GSE should be cleaned and disinfected between users. All employees should be educated and should practice personal hygiene principles. Appropriate PPE should be worn where necessary.

	Aircraft Loading / Unloading	
	Physical distance	Physical distance should be kept at all times when operational safety is not compromised, or appropriate PPE should be worn.
	Cleaning and disinfection	Regular cleaning and disinfection of surfaces (e.g. handles, mobile devices, kiosks) should be established.
	Sanitizer	Alcohol-based hand sanitizer should be placed on entry into common areas. Alcohol-based hand sanitizer should be made available for users of kiosks, shared mobile devices, etc.
	Loading staff	Close proximity of staff for loading should be minimized or appropriate PPE should be used particularly for passenger cabin loading.
	Crew rotations	Crew rotations should be maintained for 14-day periods to avoid cross team infection.
	Physical distance	Physical distance should be kept when operational safety is not compromised (encourage single person operations).
	PPE	Close contact of personnel should be limited, and appropriate PPE should be worn where necessary. For “human chain” loading, appropriate PPE should be used (masks and gloves) and hygiene principles should be applied between operations.
	Avoid cross contamination	To avoid cross contamination, MHE/GSE should be cleaned and disinfected between users.
	Personal hygiene	All employees should be educated and should practice personal hygiene principles.
	PPE	Appropriate PPE should be worn where necessary.

MINISTRY OF HEALTH/GHANA HEALTH SERVICE GUIDELINES FOR INTERNATIONAL FLIGHT OPERATIONS ON COVID-19 SAFETY AT THE KOTOKA INTERNATIONAL AIRPORT

Departing Passengers

All Passengers will be required to meet the following guidelines prior to departure:

1. Departing passengers will be required to adhere to COVID-19 testing requirements for the destination countries.
2. Departing passengers will be required to always wear face mask appropriately and adhere to social distancing as well as hygiene protocol.
3. Departing passengers will undergo temperature screening at the entrance of Terminal 3 departures.
4. Only passengers and persons with business in the terminal will be allowed entry.
5. Online check-in or the use of self-service kiosks is strongly encouraged to reduce physical contact at the airport.
6. Passengers are advised to arrive at the airport at least 4 hours before scheduled flights.
7. Travelling with pets will not be allowed.
8. Passengers are advised to regularly use hand sanitizing stations provided in the terminal.

Arriving Passengers

All international arrivals including those from the ECOWAS region will be required to meet the following health requirements prior to admission into Ghana by the Ghana Immigration Service:

1. Passengers must not have symptoms suggestive of COVID-19 including body temperature $>38^{\circ}\text{C}$
2. Passengers must possess a COVID-19 negative PCR test result from an accredited laboratory in the country of origin. The test should have been done not more than 72 hours before the scheduled departure time from the country of origin
3. For passengers who transit through other countries before arriving In Ghana, the first country of departure will be the reference point

4. For Ghanaian residents who depart Ghana and return within one (1) week, the passengers will not be required to present a COVID-19 result from the country of departure. They will, however, undergo mandatory COVID-19 testing upon arrival In Ghana.
5. Airline crew are exempted from the pre-departure and arrival testing and should follow airline policy for testing.
6. Airlines who board passengers without a PCR test result or a Positive PCR test result will be sanctioned. Except for Ghanaian residents who return within one (1) week, reference point 4 above.
7. Children under 5 years of age will not be required to undergo testing at the airport
8. Persons who arrive under emergency circumstances such as diverted flights will not be required to undergo testing if they do not leave the airport or remain in transit such that they do not leave the hotel.
9. Passengers must wear face mask appropriately (extending from the middle of the nasal bridge to halfway between the chin and the neck).
10. Passengers will be subjected to mandatory COVID-19 test at the airport terminal at the cost of \$150 to be borne by the passenger.
11. All persons testing positive will receive further clinical assessment and treatment.
12. All persons testing negative will be advised to continue to observe COVID-19 safety precautions following arrival In Ghana.

Figure 1: Passenger flow for International Arrivals at the Kotoka International Airport



Issued by the Ghana Health Service

SIGNED

**ING. CHARLES KRAIKUE
AG. DIRECTOR-GENERAL**