PART D – SECTION 5
APRON SAFETY

1. Overview

All personnel working on the apron should comply with the following guidelines in order to upkeep the overall standard of apron safety. Operators should incorporate the safety rules and practices to their operations procedures and are responsible to provide safety trainings to their employees whose duties take place on the apron.

2. Aircraft Safety in Parking Stands

2.1 Ground equipment, service vehicles and baggage dollies must be positioned inside the equipment holding areas during the aircraft docking. Potential hazard to the safety of moving aircraft on the apron arises from carelessly driven vehicles and ground equipment placed indiscriminately in the parking stand. The typical layout of the holding areas in an aircraft parking stand is shown on Plan 23 in Part L.

2.2 All aircraft ramp service providers share the responsibility of conducting aircraft pre-arrival inspection of the parking stand to ensure there are no obstacles or FOD causing potential safety hazards to the aircraft. For examples, no vehicles or equipment are broken down and disabled inside the parking stand, the airbridge are clear from the aircraft docking path (i.e. the airbridge wheels are properly positioned at the designated homebox positions if the aircraft is going to park at the main centerline), all GSE are parking inside the equipment holding area and etc. Ramp servicing personnel must report to the IAC-ACC immediately should the parking stand is not safe for aircraft docking. (Remarks: Pre-positioning of airbridge outside designated homebox is required for handling aircraft parking at auxiliary centreline.)

2.3 Once the aircraft is stopped in the parking stand, the ground engineer/mechanic must ensure that chocks are positioned in accordance with procedures stated in Para.4 of Part D, Section 3, and that the aircraft is firmly secured before advising the pilot to release brakes.

2.4 Only operators certified by the Airport Authority (AA) are permitted to operate ramp handling and apron facilities/equipment such as airbridge, vehicles and equipment for serving aircraft.

2.5 Vehicles and mobile equipment must not be driven or left unattended under the wing or fuselage of the aircraft, except when it is necessary to do so in servicing the aircraft, sufficient clearance is maintained and it is in strict compliance with the airlines' policy and procedures for ramp operations. Side loading operations which require driving under the aircraft fuselage is strictly prohibited.

2.6 Vehicles, mobile equipment and personnel are not permitted to enter a parking stand unless they are engaged in or required for the ground operations of the aircraft. Entry into a parking stand as a short-cut to other area is strictly prohibited.
2.7 Vehicles and mobile equipment are not permitted to approach to the close vicinity of an aircraft if they are not absolutely required to when servicing the aircraft. The vehicles and mobile equipment must be parked properly in the Equipment Holding Area.

2.8 Smoking is strictly prohibited in the aircraft movement areas.

2.9 Any incident resulting in damage to an aircraft, regardless of the degree of damage, must be reported to AA in accordance with procedures described in Part J.

2.10 All aircraft must be properly earthed when parking on HKIA apron wherever the earthing point is available and serviceable. The earthing procedures for aircraft with earthing point installed at nose gear and main landing gear are summarized as follow:

<table>
<thead>
<tr>
<th>Sequence of event</th>
<th>Earthing Point installed on Nose Landing Gear</th>
<th>Earthing Point installed on Main Landing Gear</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nose chocks first, other chocks follow</td>
<td>Nose chocks first</td>
</tr>
<tr>
<td>2</td>
<td>Earthing wire connection</td>
<td>Headset connection to confirm engine shutdown</td>
</tr>
<tr>
<td>3</td>
<td>Headset connection to confirm engine shutdown</td>
<td>Wait for the engine off and anti-collision light off</td>
</tr>
<tr>
<td>4</td>
<td>Thumb up signal to other ramp operators upon anti-collision lights off</td>
<td>Main gear chocks installed and earthing wire connection</td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>Thumb up signal to other ramp operators</td>
</tr>
</tbody>
</table>

3. **Passenger Safety on the Apron**

The movement of passengers on the apron must be strictly protected. At the remote stands, sufficient airline or handling agent staff should be made available to ensure that the following precautions are taken:

3.1 Aircraft engines must not be running during passenger disembarkation/boarding.

3.2 Passengers are guided from/to the mobile step directly into/from buses positioned close by. Passengers must not walk below the aircraft wings, move close to the engines or wander in the parking stand.

3.3 Passenger movements at the planeside must be protected from vehicular traffic.

3.4 Ramp transit passengers must be transported by buses.
4. **Engine Hazards**

4.1 **Engine Noise**

Ear defenders/plugs should be used by ramp staff exposing to aircraft engines noise.

4.2 **Jet Ingestion**

The intake suction of jet engines, even at idle power, is a potential hazard to persons in front of the engines. Large engines are quite capable of ingesting objects or even human body situated several metres away with catastrophic result.

4.3 **Jet Exhaust**

The exhaust of jet engine is just as hazardous as the intake. The high temperature and the velocity of the exhaust can inflict severe injury to persons or ramp equipment positioned inside the blast area.

4.4 **Safety Precautions against Engine Blast**

4.4.1 Do not approach an aircraft with its engine(s) running and its anti-collision lights switched on.

4.4.2 When awaiting an aircraft to arrive, all staff and equipment must remain inside the holding area of the parking stand until the aircraft engines are shut down and a ‘thumb up’ signal is given by the line maintenance crew.

4.4.3 On aircraft departure, all personnel and equipment must keep clear from the area in front of and behind the engines before engine start.

5. **Foreign Object Damage (FOD)**

Debris, litter and loose objects on the apron if ingested by the aircraft engines or aircraft undercarriage may lead to costly damage and even cause an aircraft incidents. Whilst the AA undertakes regular cleaning of the apron and parking stands, it is the responsibility of all airfield personnel, including airlines, line maintenance and ramp handling franchisees, fuelling companies, air caterers and other personnel at the airside to prevent generation of FOD from their operation. Ramp operators shall contribute to ramp safety by observing the following measures while working on the ramp:

5.1 Do not leave debris, litter, bags of garbage, loose objects, catering items and cabin necessities on the ramp, or any parts of the airbridges.

5.2 Pick up any debris, litter or loose objects on the apron. FOD bins are located in all parking stands. Waste collected from aircraft cabin cleaning and catering servicing must be disposed at designated waste compactor station on apron. Polythene sheets used for cargo wrapping must be properly retrieved and stored inside a container right after loading the cargo into the aircraft for recollection by the cargo terminal operators, or disposed at designated
collection points. Engine oil/hydraulic cans must be disposed properly in accordance with manufacturer’s instructions and company policies away from the apron. Such kinds of wastes must not be put into the FOD bins.

5.3 Secure all loads in vehicles and trailers to ensure nothing will fall out during movement.

5.4 All Unit Load Device (ULD) must be properly stored on trailers or container rack and must not be put on ground without authorization.

5.5 Depalletization of outbound cargo by any parties in airside is strictly prohibited.

5.6 Decontainerization of outbound cargo is not allowed unless prior approval has been sought from the Airfield Duty Manager.

5.7 Inform Apron Control Centre (Tel. No.: 2910 1108) of any FOD found on the apron if unable to remove.

6. **Personal Safety**

In accordance with the Labour Department’s “Guide to Safety Management”, all employers should identify the hazards in the work place and adopt engineering methods to control the risks to the lowest level that is reasonably practicable. Personal protective equipment (PPE) such as protective clothing, eye protectors, hearing protectors and safety harness, should be provided as the “last resort” to protect employees against risks to safety and health.

6.1 **High Visibility/Conspicuous Clothing**

6.1.1 Visibility is one of the key considerations in safeguarding ramp operation personnel safety. To enhance the visibility of ramp operators, the working clothing of the ramp personnel must be equipped with reflective materials that allow their presence to be seen conspicuously during day and night and in adverse weather.

6.1.2 The High Visibility (HV) clothing should be conformed with British Standard EN 471. The standard gives specifications for coveralls, jackets, waist-coats, tabards, trousers and harnesses.

6.1.3 The standard has the following requirements:

- Two horizontal bands of reflective material must be fitted to the clothing
- The width of the horizontal bands shall not be less than 50mm wide
- 2 horizontal bands of reflective material shall not be less than 50mm apart
### 6.1.4 Examples of the designs are as follow:

<table>
<thead>
<tr>
<th>Design</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflective vest/waist coat</td>
<td><img src="image" alt="Reflective vest/waist coat" /></td>
</tr>
<tr>
<td>Coverall</td>
<td><img src="image" alt="Coverall" /></td>
</tr>
<tr>
<td>Jacket</td>
<td><img src="image" alt="Jacket" /></td>
</tr>
<tr>
<td>Tabard</td>
<td><img src="image" alt="Tabard" /></td>
</tr>
</tbody>
</table>
6.1.5 High visibility clothing must be suitable for the actual condition of work. Damage or ill-fitted clothing will fail to provide proper protection.

6.2 Protective Footwear

6.2.1 All personnel working on the airside are recommended to wear appropriate protective footwear to protect from possible foot injury. Footwear should be designed to prevent sparks for fire safety reasons and conform to EN 346. For personnel who are engaged in work activities that may result in serious foot injury such as equipment maintenance and heavy material handling, the footwear should conform to EN345.
6.3 **Provision of airbridge, high-lift platform or step at aircraft cabin door**

6.3.1 Airbridge, high-lift platforms or steps must be positioned at the aircraft cabin doors when the doors are being opened, remain opened or being closed, for all aircraft of active operations.

6.3.2 Proper arrangement must be made on the aircraft cabin doors opening/closing procedures and provision of airbridge/high-lift platforms/steps with distinctive roles and responsibilities by the airlines and ground handling operators.

7. **Airside Safety Demerit Point Scheme**

With the support of the airport community on airside safety enhancement, the Airside Safety Demerit Point Scheme is developed with the aim to cultivate the safety mindsets of all personnel working in the airside. The types of offences and corresponding points are disseminated to the airport community via Airfield Circular and the latest version of the Ramp Safety Handbook issued by the Airfield Department.

7.1 **AA Bylaws**

All personnel must observe the provisions stipulated in the AA Bylaws. It should be noted that the Airside Safety Demerit Point Scheme shall in no way prejudice the enforcement of any AA Bylaws.

7.2 **Suspension of ARA Permit**

The ARA Permit of an offender will be suspended for a period of 7 days upon accumulation of 10 or more Points in the previous 12 months. The company concerned will be notified in writing when its staff has accumulated 10 or more Points and be required to withhold the offender’s ARA Permit for the specified suspension period.

Suspension of ARA Permit will be executed concurrently with other actions, such as driving offence points awarded, suspension of “D” endorsement or suspension of technical rating.

7.3 **Resumption of ARA Permit**

The company concerned has to inform AA in writing the remedial measures, including but not limited to re-training, to make offender aware of relevant company safety procedures and provide proof of executing the suspension period against the offender before resumption of his/her ARA Permit.
7.4 Repeated Offender

The suspension period will be increased to 14 days for offender having repeated suspensions of ARA Permit within 12 months.

7.5 Appeal Procedure

The company of the staff concerned must submit in writing the justifications of appeal to Assistant General Manager, Airfield of Airfield Department of Airport Authority within 2 weeks from the date of award of the Point.

8. Standard of Ramp Equipment

To safeguard aircraft safety, the following three types of ramp equipment for aircraft servicing must be in compliance with the standard required by the Authority ("Standard") of details below:

8.1 Safety Cones
- With reference to the IATA Airport Handling Manual;
- Conical in shape;
- Minimum height of 750mm (approx. 29.5 inches);
- Minimum base weight 4.53 (approx. 10 lbs);
- Orange in colour with reflective striping.

8.2 Aircraft Chocks
- With reference to the IATA Airport Handling Manual;
- Triangular or pyramid in shape, with an approximate 45° angle at the point at which the tyre makes contact;
- In high visibility colour or be identified by high visibility markings;
- Minimum height of 152mm (approx. 6 inches);
- Length of 406mm – 558mm (approx. 16 to 22 inches);
- Made of material that has a suitable coefficient of friction and that has adequate rigidity;
- Resistant to aircraft fuels, oils and lubricants.

8.3 Aircraft Earthing Cables
- Electrical Resistance: Maximum 30m of cable shall less than 500mΩ;
- Overall Diameter of approx 8mm (inner cross-section area >22mm²);
- The end of each cable be attached with a clip made of alloy;
- PVC or equivalent outer sheath of hi-visibility orange colour;
- Resistant to aircraft fuels, oils and lubricants.
8.4 Airline operators and their appointed ramp service providers must strictly adhere to the Standard of safety cones, aircraft chocks and aircraft earthing cables. Aircraft ground servicing activities may be suspended by the Authority if the airlines or the ramp service providers fail to deploy the ramp equipment in compliance with the above Standard.

8.5 To improve the working efficiency of the ramp staff and the productivity of the ramp equipment, an Equipment Pooling Scheme (“Scheme”) has been developed by the Authority together with the licensed ramp service providers of HKIA.

8.5.1 Safety Cones and Mobile Stairs (“RH Equipment”)
- Fixed number of safety cones of the Standard with a dedicated trolley are provided and positioned at designated area of specified parking stands of main passenger apron, Midfield Concourse, Cargo Apron and West Cargo Apron.
- Fixed number of mobile stairs are provided and positioned at designated area of specified parking stands of main passenger apron, Midfield Concourse and Midfield Remaining Area.
- Licensed ramp handling operators participating the Scheme are authorized to use the Safety Cones and Mobile Stairs for aircraft servicing but restricted to demarcation of clearance zone and lower deck cargo door of the aircraft respectively.

8.5.2 Aircraft Chocks, Earthing Cables and Service Steps (“LM Equipment”)
- Fixed number of LM Equipments are provided and positioned at designated area of specified parking stands of main passenger apron, Midfield Concourse, Cargo Apron, West Cargo Apron, Maintenance Apron and temporary parking stands.
- Licensed line maintenance operators participating the Scheme are authorized to use the LM Equipment for aircraft servicing.

8.5.3 Unauthorized use of the RH Equipment or the LM Equipment of the Scheme by any parties is strictly prohibited.

8.5.4 Staff of the participating licensed ramp handling operators and Licensed line maintenance operators of the Scheme must fully observe and comply with the housekeeping rules and responsibilities in using the RH Equipment and the LM Equipment as per the Memorandum of Understanding signed with the Airport Authority.

8.5.5 Unauthorized or improper use of the RH Equipment or the LM Equipment of the Scheme will be awarded with Airside Safety Demerit Points and may result in suspension of Airside Restricted Area Permit.
8.5.6 The Safety Cones of the Scheme shall be used exclusively by the participating licensed ramp handling operators. In the event that an airline operator requires the line maintenance operator to position the Safety Cones for aircraft ground operations instead, the line maintenance operator shall make prior agreement with the concerned ramp handling operator on the use of the Safety Cones and shall be held responsible for any incidents due to mishandling of the Safety Cones.