It is the responsibility of all employers to ensure that relevant OSIs are brought to the attention of their staff. However, individuals remain responsible for their own actions and those who are in any doubt should consult their Supervisor or Manager.

1. **PURPOSE**

1.1 The purpose of this OSI is to provide supplementary instructions for the fuelling of aircraft, in addition to the guidance provided by the Civil Aviation Authority (CAA) in CAP 748 titled ‘Aircraft Fuelling and Fuel Installation Management’ and CAP 789 'Requirements and Guidance Material for Operators' and bring these publications to the attention of all aircraft operators and fuelling organisations operating at Heathrow Airport.

1.2 CAP 748 and CAP 789 outline standard procedures to be followed and practices to be observed when the fuelling of aircraft is taking place. It is recommended that companies involved with aircraft refuelling obtain their own copies of CAP 748 and CAP 789.

1.3 Copies of CAP 748 and CAP 789 are available from the following addresses:

http://www.caa.co.uk

or

TSO
Box 29
Norwich
NR3 1GN
Tel: 0870 600 5522
Fax Orders: 0870 600 5533

1.4 Additional guidance material is available from various sources including JIG, Oil Companies, Airlines and IATA AHM, Section 630.

1.5 Companies operating at Heathrow shall be aware of and have regard to Operational Safety Instruction (OSI) ‘Airside Environment – Incident Reporting Procedures’ which covers environmental impacts of fuel spillages. (OSIs are available at www.heathrowairport.com/airside).

1.6 OSI/35/01 and OSI/22/05 are hereby cancelled.
2. **DEFINITIONS**

For the purpose of this Instruction, the use of the term;

2.1 ‘Fuelling’ embraces both fuelling and de-fuelling, as well as the associated maintenance activities undertaken by the Hydrant Operating Company.

2.2 ‘Fuelling operative’ is the person trained and designated to undertake fuelling activities on behalf of the into plane agent.

2.3 ‘Hydrant Dispenser’ is the vehicle used to transfer (pump) fuel between the fuel hydrant point on the stand and the aircraft. These units are regarded as ‘mobile fuelling equipment’. Dispensers contain a relatively small amount of fuel within the dispensing system and do not present a significant risk in the event of a fuel fire. The requirement under CAP 748 details the requirement for the ‘rapid removal of fuelling vehicle’, need not apply to hydrant dispensing vehicles, subject to the fuelling company carrying out a risk assessment of the operation.

2.4 ‘Fuel Bowser/Fuel Tanker’ is the vehicle or trailer used to transport bulk quantities of fuel between the fuel depot and the aircraft stand.

2.5 ‘Fuelling Zone’ shall be regarded as extending at least 3m radially from aircraft fuelling points, vent points, hydrant valves, and the fuelling vehicle/hose combination.

3. **AIRPORT FUELLING FACILITIES**

3.1 The vast majority of aircraft stands at Heathrow are equipped with hydrant refuelling facilities.

3.2 An emergency stop fuel button is located at the head of each stand in the form of a break-glass unit. Activation of this break-glass will result in the fuel supply within the hydrant system being cut off from both the stand on which the break-glass was activated and a number of stands adjacent to it.

3.3 Hydrant refuelling on a stand on which the fuel stop button is unserviceable shall not take place, unless an alternative method of emergency shut down is implemented. This may take the form of radio contact between the fuelling operator and a location with an operable fuel stop button.

3.4 The area in front of the emergency stop fuel button is to remain free of vehicles. The area is highlighted by hatched paint markings. Parking in this area is strictly prohibited.

3.5 The use of the emergency stop fuel button is covered in paragraph 8 below.

3.6 Any faults should be reported to the HAL Engineering Fault Desk on extn 655001 (0208 745 5001).
4. **FUEL COMPANY EQUIPMENT**

4.1 All fuelling vehicles (Hydrant Dispenser, Bowser/Tanker) are to be fitted with a ‘Dead Man Control’ that allows the fuelling operator to stop the flow of fuel quickly in an emergency.

4.2 Fuelling companies are responsible for ensuring that fire extinguishers for the protection of the fuelling equipment are readily available, before the transfer of fuel begins. These extinguishers shall be maintained to the standards recommended by the manufacturers. Fuelling company personal shall be trained in their use.

5. **FUELLING WITH PASSENGERS ON BOARD or BOARDING or DISEMBERAKING**

5.1 It is the responsibility of the aircraft operator to determine whether fuelling of the aircraft should take place, with passengers on board or boarding (embarking or disembarking) and the method by which this is carried out.

5.2 When passengers are boarding or disembarking, their route shall avoid any fuelling zone areas, and they shall be under the direct supervision of airline staff. This supervision shall include ensuring passengers do not use mobile phones or other electronic devices.

5.3 At all times the ‘No Smoking policy’ is to be strictly enforced

5.4 In the unlikely event that passenger-baggage reconciliation work is being undertaken on the ramp while fuelling is taking place, it shall be done outside the fuelling zones.

6. **SUPERVISION OF FUELLING**

6.1 Both CAP 748 & CAP 789 place the responsibility for supervision of fuelling procedures upon Aircraft operating companies. Extract from CAP 789 below :-

"Aircraft operating companies should either appoint a competent person (referred to here as the Fuelling Overseer) or demonstrate that they have an integrated system of ramp safety that includes training of all staff including subcontractors of the risks and safety aspects of fuelling including hazard and incident reporting. The Fuelling Overseer or person to whom the fuelling is delegated (e.g. Flight Crew, Ground Engineer or Authorised Refueller) should know how to ensure the observance of correct fuelling procedures and be responsible for liaison with the fuel company's fuelling operatives. The Fuelling Overseer should identify himself to the fuelling company operator so that there is an obvious contact if a problem occurs. The Fuelling Overseer, or in the case of an integrated system of ramp safety all ramp staff including subcontractors, should be familiar with the safety measures for the refuelling operation referred to in the introduction to this chapter. This will ensure interoperability of procedures, which is essential for the safe conduct of the fuelling operations. The person to whom the fuelling has been delegated should ensure that there is adequate restraint of the aircraft by checking that the wheels are adequately chocked and confirming that the brakes are applied (unless this is not recommended for the particular type of aircraft), or that an acceptable alternative is in place. The person to whom the fuelling has been delegated should remain in the vicinity of the aircraft whilst fuelling operations are in progress and should ensure the correct positioning of service equipment and fuelling vehicles".

End of extract
6.2 All parties should be satisfied that the responsibilities of a fuelling overseer are allocated and covered. Heathrow Airport Limited (HAL) recommend that a joint risk assessment would be a good method to achieve this (e.g., aircraft operator, into-plane company and airport operator). Particular emphasis should be given to the procedure(s) required for alerting the Airport Fire Service in the event of a fuelling incident (see paragraph 8 below).

6.3 Specific fuelling procedures shall be agreed between the airlines and the contract holder, which reflect the type of fuelling service agreed.

6.4 The technical aspects of the aircraft refuelling operation may be undertaken by other competent persons (e.g. fuelling company employee), appointed by the airline and instructed in the requirements of the aircraft fuelling.

7. **FUELLING OPERATION - PRECAUTIONS**

7.1 The aircraft operator shall ensure that all personnel working on, inside or in the immediate vicinity of the aircraft are made aware that fuelling is taking place.

7.2 When fuelling is taking place, **all** vehicles and equipment shall be positioned to allow the unobstructed egress of person(s) using the designated exits, including the chute deployment areas, from the aircraft in an emergency.

7.3 The fuelling operative and the airline Turnround Coordinator, or Dispatcher shall ensure that a clear path is maintained from the aircraft to allow for the quick removal of any fuelling bowser/tanker. (This is not necessary for Dispensing vehicles – see paragraph 2.3).

7.4 Sufficient clearance is maintained between the fuelling equipment and the aircraft wing so that the aircraft does not ‘sink’ onto the vehicle as fuel is transferred.

7.5 Fuelling equipment should be positioned so that there is no requirement for vehicles to reverse before departure.

7.6 Flags and other devices will be used to ensure couplings and hoses are clearly visible.

7.7 A pit valve lanyard is to be connected and easily accessible.

7.8 During fuelling operations, air and fuel vapours are displaced from the aircraft fuel tanks. Vehicles (other then fuelling vehicles or similar specifically designed vehicles) shall not be in the fuelling zones while fuelling is taking place. If this is not possible, the aircraft operating company operating shall undertake an appropriate risk assessment in conjunction with the fuelling company and vehicle operator.

7.9 If an auxiliary power unit (APU) is to be in operation when located within a fuelling zone, or has an exhaust efflux discharging into a fuelling zone, it should be started before filler caps are removed or fuelling connections made. If it is stopped for any reason during fuelling operations, it should not be restarted until the flow of fuel has ceased, and there is no risk of igniting fuel vapours.
7.10 Ground Power Units (GPU’s) may be operated, provided they are positioned more than 3 metres from any fuel zone when in use.

7.11 Mobile phones and other electronic mobile devices such as MP3 players that can be a distraction or source of ignition shall not be used during fuelling operations.

7.12 Fuelling operations shall be suspended during severe local electrical storms.

8. INCIDENT & EMERGENCY PROCEDURES

8.1 General

8.1.0 It is the responsibility of the airline or its appointed agent to ensure that appropriate actions are carried out in the event of a fuel related incident.

8.1.1 Damage to fuelling equipment and the spillage of fuel, during the fuelling process, requires the attendance of the Airport Fire Service (AFS). The AFS can be called by using the stand telephone and dialling 222, or using an external telephone and dialling 0208 759 1212. The exact nature of the incident and the location should be stated clearly.

8.1.2 The emergency stop fuel button/brake-glass must be used in the event of an aircraft fire, a major hydrant leak, or a vehicle fire near an aircraft. Operation of the button/break-glass must be followed by a 222 telephone call to request the attendance of the Airport Fire Service.

8.1.3 If fuelling has been interrupted due to activation of the fuel stop button, or a local evacuation (etc) where the fuel stop button has not been activated, the fuelling operative is to establish contact with the HAL Airside Safety Department (ASD), as well as any contact with their company operations control, to establish if fuelling can re-commence. HAL ASD can be contacted on 020 8745 6024 or internally on 656024.

8.1.4 All staff involved in the aircraft turnaround shall be familiar with the location of the stand telephone, and the location and operation of the emergency stop fuel button. All staff should ensure there is clear access to these facilities at all time.

8.2 Fuel Spillage

8.2.1 In the event of a fuel spillage, action should be taken to stop the fuel flow, and the aircraft commander / crew must be informed.

8.2.2 In the case of a spillage occurring which measures greater than 2 meters in diameter the aircraft operator or agent acting their behalf shall:

   a) Consider evacuation of the area. It is generally safer upwind and upslope of any fuel spill.

   b) Prevent the movement of persons or vehicles into the affected area and ensure that all activities in the vicinity are restricted to reduce the risk of ignition.
c) Ensure that engines of vehicles within 6m of a spillage are switched off or not started until the area is declared safe.

8.2.3 If a large scale spillage occurs, steps should be taken, provided there is no danger to staff involved, to isolate or contain the spillage. Companies must ensure that all in-house spillage procedures are fully understood by their employees.

8.2.4 Companies must ensure that spillage clean-up, reporting procedures and incident records are available for audit purpose by HAL.

9. **FUELLING of AIRCRAFT in HANGARS**

9.1 Companies involved in fuelling aircraft hangars shall carry out a risk assessment of this activity, and be satisfied with the safety procedures applied.

10. **GENERAL**

10.1 Any questions concerning this Instruction should be addressed to the HAL Airside, Ramp Assurance Manager, Telephone Number 07771 978092.

Issued on behalf of the
Airside Operations Director