



Operational Safety Instruction

Aircraft Fixed Electrical Ground Power

Operating Procedures and Conditions of Use

06th July 2012

ASDRVE_OSI_018

v1.0

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. Introduction

1.1 Aircraft FEGP is installed on most stands. The FEGP is an environmentally-friendly system using electricity provided by the National Grid. It is suitably modified for use on aircraft, thereby avoiding the need for on-site diesel generators or continuous running of aircraft APUs. This Instruction should be read in conjunction with ASEnv_OSI_061 Ground Noise at Heathrow – Approval Control Process and Safety of Engine Ground Running.

1.2 OSI/32/08 is hereby cancelled.

2. Definitions

Abbreviation	Description
AC	Alternating Current
APSC	Aircraft Power Supply Cubicle(s)
APU	Auxiliary Power Units
FEGP	Fixed Electrical Ground Power
GPUs	Ground Power Units
Hz	Hertz

3. Safety Procedure

3.1 Equipment and Systems

3.1.1 The FEGP equipment consists of an Aircraft Power Supply Cubicle and cable carrier or cable coils on each stand. The system provides AC power for parked aircraft, at 115/200 volt, 400 Hz, three- phase supply with a 28 volt AC interlock safety circuit. Each unit has a single cable connection which will reach the forward part of an aircraft in its normal, parked position.



- 3.1.2** The APSC is located, whenever possible, on the starboard side of the stand and ahead of the aircraft, in such a position that it does not present an obstacle to servicing vehicles.
- 3.1.3** The cable carrier is an apron-mounted, mobile, multi-link device equipped with single core flexible cables running down its entire length from the APSC supply point, and terminating in the carrier receptacle (the bucket). A free length of flexible cable (the harness) is connected to the bucket terminations with an ISO/NATO plug.
- 3.1.4** The harness is of sufficient length to allow connection to receptacles of aircraft having high ground clearances. The cable carrier will also reach aircraft parked in the `Stop Short` position in most cases. Many stands regularly serving wide-bodied aircraft are equipped with cable carriers containing double or triple plugs.
- 3.1.5** The bucket also incorporates the `On/Off` push buttons, the `Power Available` a `Power On` indicator lamps. On a double or triple plug cable carrier there are appropriate sets of buttons and indicator lamps for individual cable indication/operation.
- 3.1.6** The cable coil is used instead of a cable carrier and is mounted to the underside of an aircraft jetty rather than at ground level. They are installed on certain stands assigned for Multiple Aircraft Ramp System operation to reduce ground level obstruction. A control box mounted to the airbridge bogie houses the power `Start/Stop` and cable coil `Up/In - Down/Out` drive push buttons and `400Hz Output On` and `Common Error` indicator lamps. The `Down/Out` drive from the control box is limited to a maximum cable length of 4 metres to avoid the NATO plug being damaged if dragged across the ground unmanned. For lengths greater than 4 metres, the `In/Out` buttons on the NATO plug are used which control the cable feed for the complete length available.
- 3.1.7** The cable coil plug is fitted with an interlock device which prevents the airbridge from being retracted whilst the FEGP is powered on. It is the responsibility of the airbridge operator to visually check that the FEGP plug and cable have been disconnected and retracted prior to the airbridge being moved, and not to solely rely on the interlock device.
- 3.1.8** The cable coil must not be used for aircraft parked in the `Stop Short` position.



3.1.9 Harnesses for both cable carrier and cable coil systems are supplied with a cable restraining device to take the weight of the cable whilst it is in use on the aircraft. The restraining device must be used whilst the FEGP is connected to the aircraft

3.1.10 The FEGP system operates at 115/200 volts, 400 Hz. Staff must take due care when operating or handling the system.

3.2 Operating Procedures and Training

3.2.1 Airlines and handling agents must appoint a manager or supervisor competent to train members of their staff in the safe use of the FEGP system.

3.2.2 Authorised users of FEGP must comply with any requirements or conditions which may be determined from time to time by Heathrow, including audits.

3.2.3 Misuse of the equipment may result in electrical faults which could endanger personnel and damage aircraft systems.

3.3 Fault Reporting

3.3.1 In the event of a fault developing in the FEGP system, Heathrow Stand Allocations must be advised immediately by telephone (020 8745 6033 or internal 656033) giving the operative's name, company, stand number and nature of defect and whether the unit is out of service. Unserviceable units will be displayed on UltraSIS. Heathrow Stand Allocation team will raise a fault with Engineering Fault desk (020 8745 65001 or internal 655001).

3.3.2 When Heathrow (Airside Facilities Engineering) attend to the fault, and if the FEGP is faulty and not capable of reset or quick repair, Heathrow will attach either an orange cover over the FEGP carrier bucket or a label to the cable coil NATO plug showing the FEGP is unserviceable. The unit will also be locked off as a safety measure.

3.3.3 FEGP users should therefore assume that, if the FEGP does not have this orange cover or label fitted, the FEGP is serviceable and should be used. As soon as faults are rectified the cover will be removed and UltraSIS amended.



3.3.4 Notwithstanding the above, Heathrow will not attempt to rectify any faults where cables are found plugged into aircraft, due to risk of damage to aircraft systems.

3.4 Conditions of Use

3.4.1 Use of the FEGP system by an airline, aircraft operator, aircraft owner or handling agent shall constitute their prior acceptance of the conditions set out in this Instruction in 3.2, 3.3, 3.4, 3.5 and the promulgated charges set out from time to time by Heathrow.

3.4.2 Heathrow will provide and maintain each FEGP cubicle, cable carrier and supporting infrastructure and will provide electricity supply for its operation.

3.4.3 FEGP systems may be operated on behalf of and with the permission of their employers only by persons approved by Heathrow as in 3.2.1 and 3.2.2 above.

3.4.4 Heathrow shall not be liable for any loss or damage resulting from use of the FEGP system or any part thereof due to non-availability from whatever cause.

3.4.5 Neither Heathrow, its servants or agents shall be liable for any loss of or damage to property arising directly or indirectly from any act or omission of Heathrow in connection with the provision or use of the service other than loss or damage which is solely attributable to wilful misconduct or negligence on the part of Heathrow, its servants or agents.

3.4.6 The airline, aircraft operator, aircraft owner or handling agent shall indemnify Heathrow, its servants or agents against all actions, claims, proceedings and demands (including those of servants of Heathrow or of the airline, aircraft operator, aircraft owner or handling agent) in respect of any loss of or damage to property or for personal injury (including injury resulting in death) which may be made against Heathrow, its servants or agents, arising out of or in connection with the provision or use of the service other than loss, damage or injury which is solely attributable to wilful misconduct or negligence on the part of Heathrow.

3.5 FEGP Unserviceability and/or Non-Availability

3.5.1 If the FEGP equipment is unserviceable or not available for any reason, aircraft GPUs can be used. However, Heathrow will levy surcharges in accordance with the rules laid out in ASEnv_OSI_061 Ground Noise at Heathrow – Approval Control



Process and Safety of Engine Ground Running for use of GPUs where serviceable FEGP units are provided.

3.6 Enquiries

3.6.1 Any enquiries regarding this Instruction should be addressed to the Airside Facilities Manager, Airside Engineering, telephone the Airport Operations Centre on 020 8745 7216 for contact details.

4. References

AEnv_OSI_061 Ground Noise at Heathrow – Approval Control Process and Safety of Engine Ground Running

