



Aerodrome Manual

Heathrow Airport Limited
The Compass Centre
Nelson Road
Hounslow, Middlesex
TW6 2GW

REF: Airside_SMS_Aerodrome Manual_v7.0

DATE: 20th March 2023



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A. General

A.1 Administration and control of the aerodrome manual

1.1 Introduction & Statements of Compliance

The Aerodrome Manual forms an important part of the certification process required by the Civil Aviation Authority (CAA) with respect to the operation of the aerodrome. This document complies with all applicable requirements as detailed in UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation) ADR.OR.E.005 and is in accordance with the terms of the aerodrome certificate.

Following the transition of EASA regulations into UK law, regulatory references are now in accordance with 'Regulation (EU) No 139/2014 as retained and amended in UK domestic law (UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation)) under European Union (Withdrawal) Act 2018'. References to rules are currently contained in CAA 139/2014 Aerodromes AMC GM, CAA 139/2014 Aerodrome CS ADR GM and in CAA 139/2014 Aerodromes CS HPT GM.

The Manual and its associated documents contain information relevant to the safe operation of Heathrow's aerodrome. It describes the aerodrome services and facilities, the airfield management structure and responsibilities, the aerodrome safety management system, and provides references to pertinent operational procedures and standards.

All users of the aerodrome are expected to follow the standards and operational procedures referred to in this document, in order to meet or exceed the minimum standards required by the terms of the certificate. Full operational safety instructions are available online at [Heathrow.com/airside](https://www.heathrow.com/airside).

Heathrow Airport Limited gives safety the highest priority at all times. It is committed to ensuring the health and safety of employees, customers, business partners and members of the public, so far as is reasonable and practicable.

Heathrow welcomes and encourages the participation of airside users in the continuous improvement of the safety standards laid out in this manual.



Emma Gilthorpe
Chief Operating Officer
Accountable Manager
Heathrow Airport Limited.



1.2 Explanations, abbreviations and definitions of terms needed for the use of the manual

1.2.1 List of abbreviations;

Abbreviation	Description
ACM	Aerodrome Compliance Manager
AfDM	Airfield Duty Manager
AFRS	Airport Fire Service
AGL	Airfield Ground Lighting
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
ANO	Air Navigation Order (CAP 393)
AODM	Air Operations Duty Manager
AOC	Airline Operations Committee
AOM	Airport Operations Manager
APOC	Airport Operations Centre
APU	Auxiliary Power Unit
ASAM	Airside Standards & Assurance Manager
ASDA	Accelerate Stop Distance Available
ASO	Airside Systems Operations
ASOP	Airside Standard Operating Procedure
ATC	Air Traffic Control
ATIS	Aerodrome Terminal Information Service
CAA	Civil Aviation Authority (Competent Authority)
CCTV	Closed Circuit Television
CAP	Civil Aviation Publication
EASA	European Aviation Safety Agency
FFFP	Film Forming Fluoro-Protein
FOD	Foreign Object Debris
GMC	Ground Movement Control
HAL	Heathrow Airport Limited
HOEC	Heathrow Operational Efficiency Cell (NATS)
ICAO	International Civil Aviation Organisation
LDA	Landing Distance Available
ILS	Instrument Landing System
LFB	London Fire Brigade
MATS	Manual of Air Traffic Services
MOR	Mandatory Occurrence Report
MRS	Managing Responsibly System
NATS	National Air Traffic Services
NOTAM	Notice To Airmen
OCL	Obstacle Clearance Limit
OFZ	Obstacle Free Zone
OSI	Operational Safety Instruction
PAPI	Precision Approach Path Indicator
PPE	Personal Protective Equipment
RESA	Runway End Safety Area
RFFS	Rescue and Fire Fighting Service



Abbreviation	Description
RT	Radio Telephony
SARPs	Standard and Recommended Practices
SAU	Stand Allocation Unit
SEGS	Stand Entry Guidance System
SIS	Staff Information System
TODA	Take Off Distance Available
TORA	Take Off Run Available
UHF	Ultra-High Frequency (radio)
VCR	Visual Control Room (ATC)
VDGS	Visual Docking Guidance System
VHF	Very High Frequency (radio)



A.2 System of amendment and revision

2.1 Details of the persons responsible for the issuance and insertion of amendments and revisions

2.1.1 The HAL Airside Standards & Assurance Manager (ASAM) is responsible for the issuance of this document, and the management of any amendments or revisions.

2.2 A record of amendments and revisions with insertion dates and effective dates

Date	Amendments / Revisions	Author
10/3/16	V0.1 – DRAFT for CAA Review	M.McKee
06/04/16	V1 – First Issue	M.McKee
06/07/16	V1.1 – Changes to management team & structure	M.McKee
17/02/17	V2 – Various changes	M.McKee
15/05/17	V2.1 – Change of Airside Director; Change to various organisational structures; change to strip distances on various taxilanes.	M. McKee
08/08/17	V2.2 – Changes to management structure (SACM removed, ASAM added); temporary vacancy for Safety Improvement Director. Change to organisational structure to combine ramp assurance and safety under ASAM. Addition of Deputy Senior Airport Fire Manager role Amendment to SC for M.635 (missing centreline lights for 27L)	M. McKee
01/11/17	V2.3 – Change of accountable manager and tweaks to organisational structures.	M. McKee
01/04/18	V2.4 – Changes to management structure and nominated personnel. Amendments to SC in light of CS issue 4.	M. McKee
03/05/18	V2.5 – Changes to management structure and nominated personnel. Additions of/amendments to OSI and Airside Standards	M. McKee
12/09/18	V2.7 – Changes to management structure and nominated personnel.	M. McKee
03/05/19	V3.3 – Changes to management structure and nominated personnel. Additions of/amendments to OSI and Airside Standards	M. McKee
10/04/2020	V4.0 – Changes to management structure and nominated personnel. Changes to Certification Basis	P. Morgan
25/06/2020	V5.0 – Changes to management structure and nominated personnel	P. Morgan
28/10/2020	V6.0 – Changes to management structure and nominated personnel	M. Goacher



20/03/2023	V7.0 – Annual review, changes to management structure, nominated personnel. Changes to Certification Basis and Legal changes with CAA 139/2014	M. Goacher
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2.3 Handwritten amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety

2.4 A description of the system for the annotation of pages or paragraphs and their effective dates

2.4.1 Throughout this manual, links are provided to other Heathrow documents which are subordinate to the Aerodrome Manual and may be referred to for further detail on a particular subject. These are annotated within the document thus;

A **RED** border indicates that one or more “Airside Standard, Plan or ASOP” exists for a subject. These documents are predominantly aimed at the Heathrow Airside department and are available upon request from the ASAM.

A **BLUE** border indicates that one or more “Operational Safety Instruction (OSI)” exists for a subject. These documents are issued to the whole Airside community and set out safety requirements for both Heathrow internally, and external stakeholders. OSI’s are published on the Heathrow website – www.heathrow.com/airside

2.5 A list of effective pages or paragraphs

2.5.1 Unless otherwise stated, all paragraphs in the manual are current.

2.6 Annotation of changes (in the text and, as far as practicable, on charts and diagrams)

2.6.1 Changes to the text from the previous issue of the manual, both additions and removals, will be marked in the margin immediately adjacent to the text concerned, prior to review and approval.

2.7 Temporary revisions

2.7.1 Temporary revisions (<6m duration) will be issued to the community by means of an Operational Advice Notice, and to flight crews via a NOTAM and/or AIP supplement, if applicable. Longer term temporary revisions (>6m) will be included within the Aerodrome Manual, with an appropriate annotation of the timescale involved, Operational Safety instruction publication and an AIP amendment if applicable.

2.8 Description of the distribution system and a distribution list for the aerodrome manual, its amendments and revisions

2.8.1 The Aerodrome Manual is published in a number of formats;

(a) Internet; the manual is published on Heathrow’s website and is accessible to the general public or aerodrome users, via www.heathrow.com/airside.

(b) Electronic format (Email); copies of the manual are available to aerodrome users (Airlines, Handling Agents, Service Providers, Control Authorities) via email upon request. All users are notified by means of an Operational Safety Instruction when a new version of the manual is issued.

ASSMS_OSI_082 Aerodrome Manual



A.3 General information

3.1 Purpose and scope of the aerodrome manual

- 3.1.1** The principal purpose of the Aerodrome Manual (“The Manual”) is to describe how the aerodrome management will discharge its safety responsibilities.
- 3.1.2** The Manual seeks to ensure that all colleagues (HAL and third parties) are aware of the safety aims of the organisation, the chain of command, and their own responsibilities with respect to aerodrome safety.
- 3.1.3** The Manual sets out Heathrow’s aviation safety policies. The Manual is Heathrow’s primary aerodrome safety document; and provides the strategic basis for the development of tactical plans and operational procedures.
- 3.1.4** All Aircraft operators at Heathrow are required, as part of the aerodrome ‘Conditions of Use’, to adhere to the safety obligations detailed in the Manual and its subordinate documentation.
- 3.1.5** The Manual will describe the relevant aerodrome management structure and detail the safety accountabilities/responsibilities borne by each individual or group of colleagues.
- 3.1.6** The Manual will describe the aerodrome services and facilities, and set out the particulars of the aerodrome site, including any restrictions on operation or aerodrome availability.
- 3.1.7** Relevant Heathrow safety and environment policies and procedures are included or referred to within the Manual.

3.2 Legal requirement for an aerodrome certificate and the aerodrome manual

- 3.2.1** The ICAO requirement for member states to adopt a regulatory system for the Certification (i.e. Licensing) of Aerodromes used for international operations is set out in the Standards and Recommended Practices (SARPs) contained in Annex 14 Volume I to the Convention on International Civil Aviation (The Chicago Convention of 1944). Submission of an Aerodrome Manual by the applicant, as part of the approval/acceptance process for the granting of an Aerodrome Certificate, is included as a Recommendation.
- 3.2.2** The United Kingdom Civil Aviation Act of 1982 (the Act) makes provision for an Air Navigation Order (the Order) or ANO, last amended by the Air Navigation (Amendment) Order 2022, which puts the provisions of the Chicago Convention and its Annexes into effect. The ANO is published in Civil Aviation Publication 393 ‘Air Navigation: The Order and the Regulations’ (CAP 393).
- 3.2.3** Within the Air Navigation Order (ANO), article 207 sets out the requirement for flights operated for the purposes of commercial transport (as detailed in article 208) to use only aerodromes certificated for the take-off and landing of such aircraft.
- 3.2.4** —The UK continues to have the same standards established under EU retained legislation and the certification responsibilities will remain with the CAA. Current certification will remain in place until the current EC 216/2008 certificate expires, at which point, the assessment criteria will be based on the provisions of Regulation 2018/1139.
- 3.2.5** **3.2.4** Regulation (EU) No 139/2014 as retained and amended in UK domestic law (UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation) sets out the implementing rules and administrative procedures related to aerodromes as required by EC216/2008. ADR.OR.B.005 requires an applicable certificate to be issued by the Competent Authority (the UK Civil Aviation Authority) in order to operate an aerodrome for commercial transport.



3.2.63.2.5 In addition, Regulation (EU) No 139/2014 as retained and amended in UK domestic law (UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation) para. 1 ADR.OR.E.005 requires that each aerodrome operator establish and maintain an aerodrome manual, such that it "...contains or refers to all necessary information for the safe use, operation and maintenance of the aerodrome

3.3 Conditions for use of the aerodrome by its users

3.3.1 Heathrow issues an annual 'Conditions of Use' document, which sets out the obligations which are incumbent upon airline operators to use Heathrow's facilities.

3.3.2 Section 6.1(b) sets out the requirement for Airline Operators to comply with the terms of the Aerodrome Manual.

3.3.3 The Conditions of Use also contain the current charges levied by Heathrow for the use of the aerodrome and associated facilities.

3.3.4 The Conditions of Use are reviewed and re-published annually. A copy of the document is available upon request from the Aerodrome Operator, or online at <http://www.heathrow.com/company/partners-and-suppliers/conditions-of-use>.

3.3.5 Operators at Heathrow must comply with the Ground Operation Licence (GOL) or Airside Operations Licence (AOL), as applicable, which sets out obligations that are incumbent on the operators relating to ground operation.

3.4 The obligations of the aerodrome operator, rights of the Competent Authority and guidance to colleagues on how to facilitate audits/inspections by the Competent Authority personnel.

3.4.1 In accordance with UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation), paragraph ADR.OR.C.015 access, HAL will grant access to any person authorised by the Competent Authority, for the purposes of witness, inspection, test, assessment or exercise, to any facility or document relevant to HAL's activities as a certificated aerodrome.



B. Aerodrome Management Qualification and Training Requirements

B.1 A description of the management system

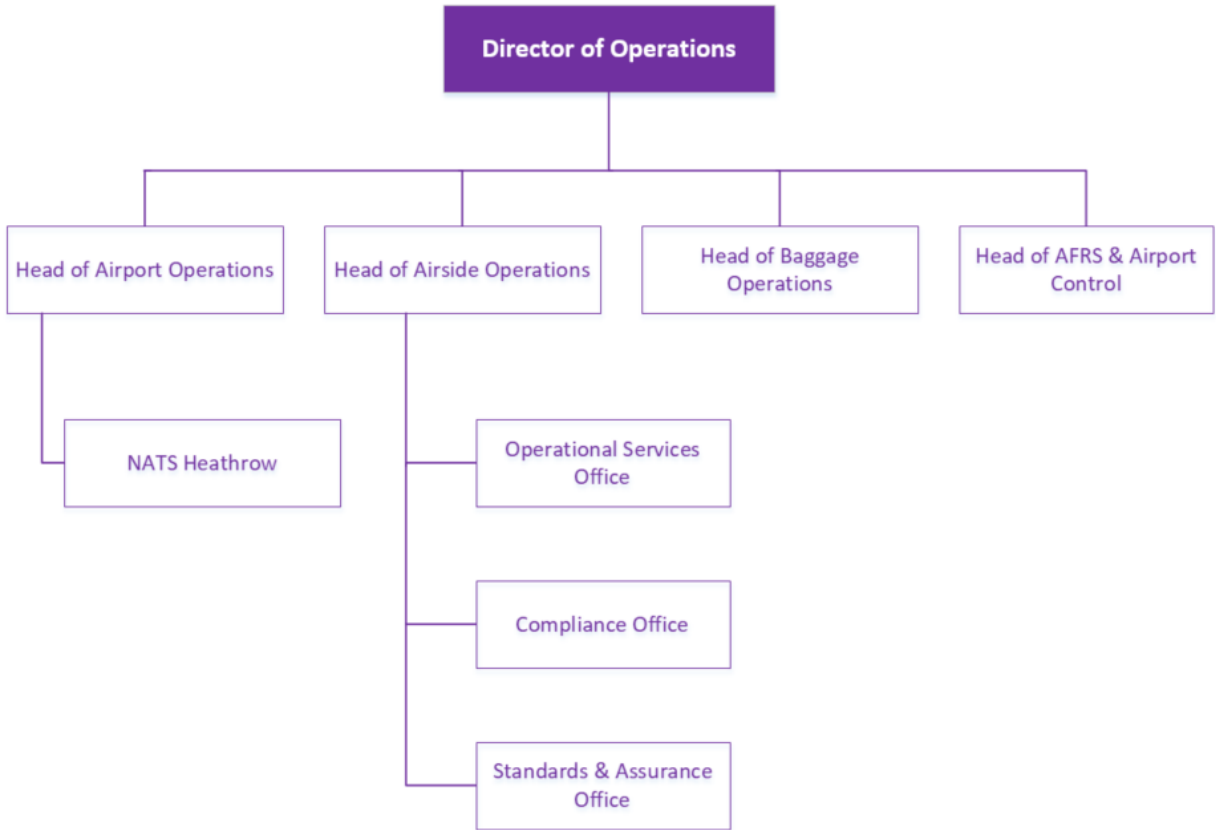
- ASSMS_PLAN_001 – Aerodrome Safety Management System
- ASTrain_Standard_002_Learning & Development
- ASTrain_Plan_002_Learning & Development
- ASSMS Standard 018 – Airside Safety Committees
- Airside_ASDRVE_Standard_011 – Runway Incursion Prevention

1.1 Aerodrome organisation and responsibilities including the following: a description of the organisational structure, including the general organogram and other departments' organograms. The organogram should depict the relationship between the departments. Subordination and reporting lines of all levels of organisational structure (Departments, Sections etc) related to safety should be shown.

1.1.1 Accountable Manager



1.1.2 Operations Directorate

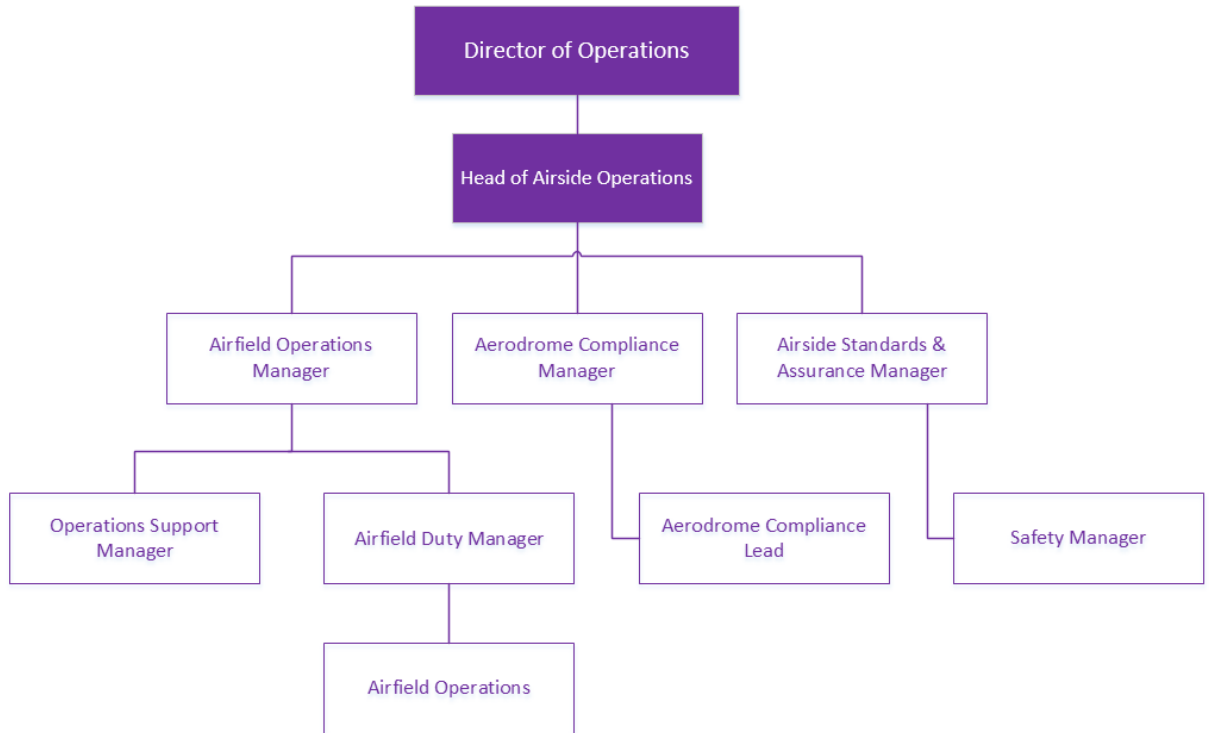


1.1.3 Safety, Health & Wellbeing

*Reporting into Chief People Officer



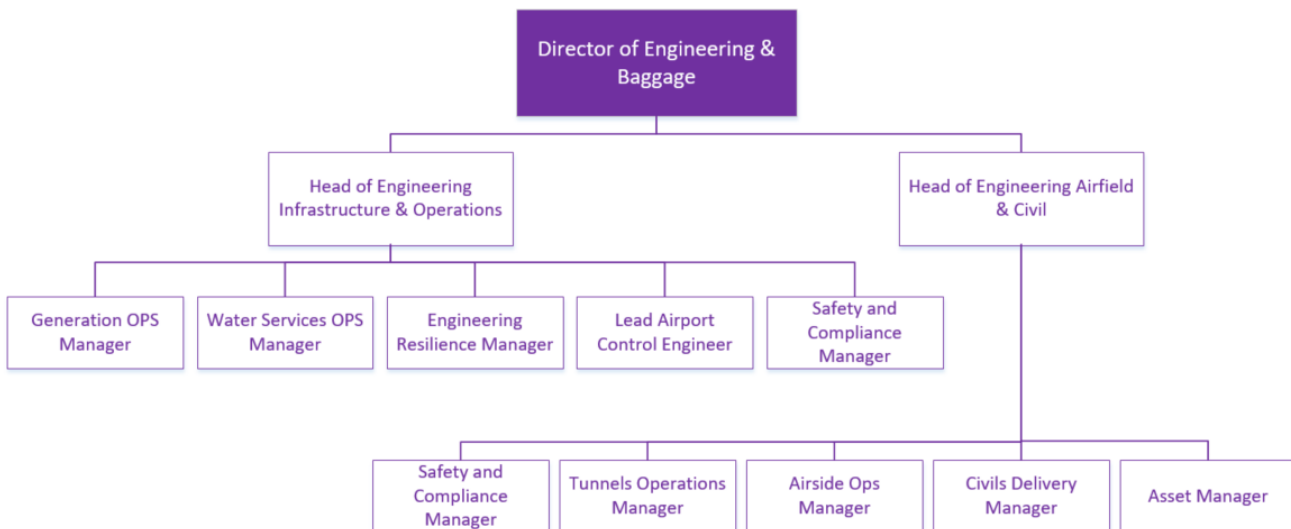
1.1.4 Airside Operations



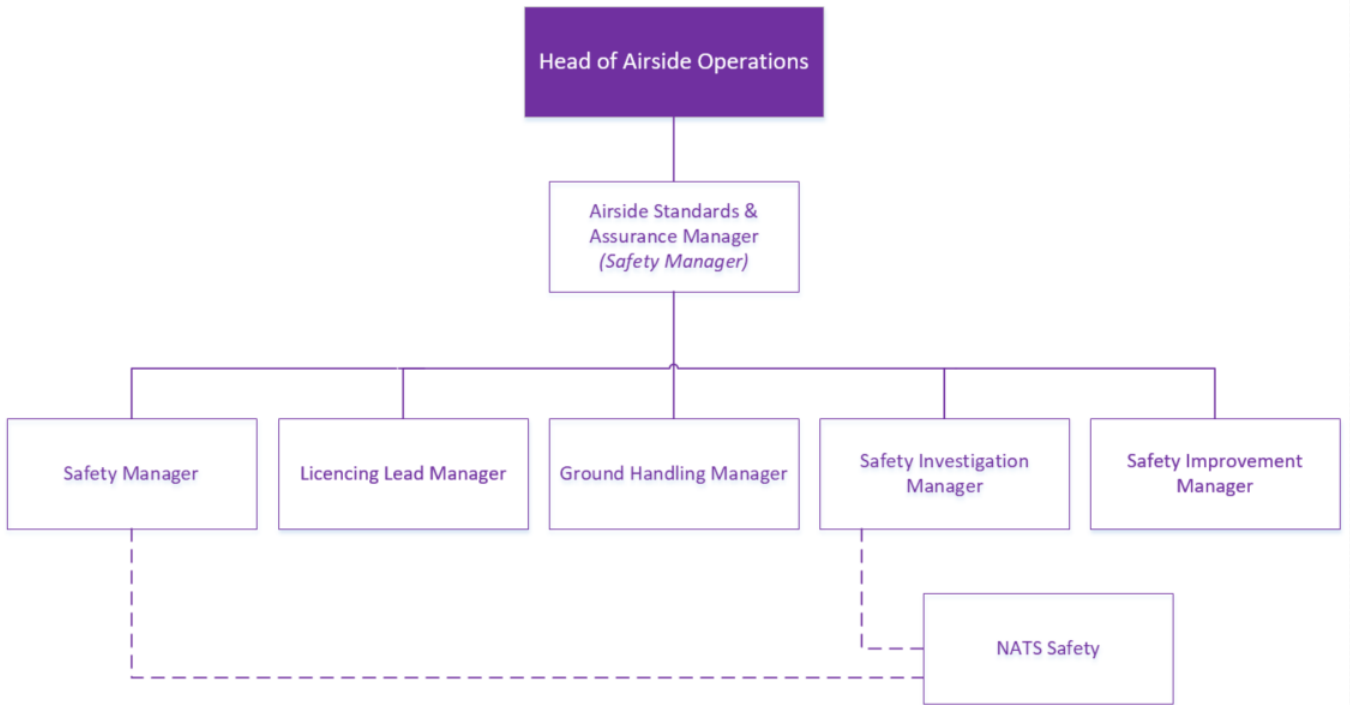
1.1.5 Airport Fire Service



1.1.6 Engineering Operations Directorate



1.1.7 Airside Standards & Assurance (Safety Office)



1.1.8 Airport Operations



1.2 Names, authorities, responsibilities and duties of management and nominated persons; responsibilities and duties of other operational, maintenance personnel, as well as the aerodrome safety committees and the Local Runway Safety Team and their functioning, should also be included.

1.2.1 Named Persons

(a) Chief Operating Officer (COO) – Emma Gilthorpe

The Heathrow Airport Limited Chief Operating Officer has overall responsibility for the operation of the airport and holds the post of **Accountable Manager** with respect to the Aerodrome Certificate. Responsibility for ensuring the conditions of the Certificate are met is delegated to the Director of Operations.

(b) Director of Operations – Dale Reeson

Reporting to the Chief Operating Officer, the Director of Operations is responsible for the day-to-day delivery of a cohesive airport operation. On the airfield, the role holder is responsible for the safe operation of the airfield, comprising all areas under the control of the airside team. This responsibility encompasses the development and implementation of the strategies and policies required to manage the airside operation and includes the Airport Fire Service. The role is also responsible for ensuring that all airside development is planned and executed in a safe manner and with minimum impact on the operation.

(c) Safety, Health & Wellbeing Director – Amanda Owen

Reporting to the Chief People Officer, the Safety, Health & Wellbeing Director is responsible for providing health and safety technical expertise and strategic leadership for business units.

(d) Director of Engineering & Baggage – Gavin Payne

Reporting to the Chief Operating Officer, the Director of Engineering & Baggage is the nominated “Maintenance Manager” under AMC1 ADR.OR.D.015(b) Personnel requirements - responsible for the development of strategies and policies for the management of assets, including the maintenance of passenger facing assets including roads, tunnels, water systems, HVAC, HV/LV electrical systems and Passenger Safety Equipment.

On the airfield, this includes maintenance of the Airfield Ground Lighting (AGL), Fixed Electrical Ground Power (FEGP), aircraft boarding bridges, stand entry guidance systems, apron lighting, as well as the maintenance of surfaces including runways, taxiways, grass areas, aprons and roads.

(e) Head of Airside Operations – Trevor Waldock

The Head of Airside Operations (HoAO) is the nominated *Manager of Operational Services* under AMC1 ADR.OR.D.015(b) Personnel requirements and carries out those duties per applicable regulations and also is the nominated *Compliance Manager* under AMC1 ADR.OR.D.005(b)(11) Management system and carries out those duties in accordance with applicable regulations.

- i. The (HoAO) is also accountable for the duties of the Safety Services Office. The HoAO discharges these responsibilities through the Airside Standards & Assurance Manager, and their team (“The Safety Services Office” under AMC1 ADR.OR.D.005(b)(1) Management system



(f) Airfield Operation Manager – Mike McKee

Reporting to the Head of Airside Operations is the Airfield Operations Manager who is responsible for ensuring the safe operation of the airfield day-to-day, and the strategic management of Airfield Operations. The role is also responsible for the aerodrome snow plan. These responsibilities are exercised through the Airfield Duty Managers (AfDM) and Airfield Operations

(g) Airfield Duty Manager (AfDM) – 24hr shift

Reporting to the Airfield Operations Manager, the Airfield Duty Manager is responsible for the H24 safe operation, availability and status of the airfield.

The AfDM is the day-to-day manager of the Airfield Operations and is also responsible for the operational liaison with ATC, the emergency services, airline management, ground handling, third party service providers and other HAL operational managers, to ensure the safe use of facilities at all times. The AfDM liaises directly with the Emergency Services Incident Officers to provide specialist airfield knowledge at an incident scene.

The AfDM is responsible for the monitoring and control of all airside work, including the approval of permits to work.

(h) Airside Standards & Assurance Manager – Michael Goacher

The Airside Standards & Assurance Manager is the nominated Safety Manager under AMC1 ADR.OR.D.015(c) Personnel requirements ADR.OR.D.015(c).

Reporting to the Head of Airside Operations, the Airside Standards & Assurance Manager is responsible for the aerodrome SMS, aerodrome compliance, safety assurance, the safety reporting system, safety investigation and improvements, licencing, aviation fuel and ground handling performance.

(i) Aerodrome Compliance Manager - Lisa Allen

Reporting to the Head of Airside Operations, the Aerodrome Compliance Manager is responsible for on aerodrome development, airside works approvals, safeguarding, crane permits, drone permit, process and procedures.

(j) Head of AFRS & Airport Control – Gary Barthram

Reporting to the Director of Operations is the Head of AFRS & Airport Control, whose role is responsible to ensure that national standards, company standards, and statutory legislation are applied and to provide advice and support on all RFFS related issues when required. The role also takes accountability for fire service-learning solutions, integrating them into the HAL business and ensuring it meets regulatory requirements. The Head of AFRS & Airport Control will also ensure that regular compliance monitoring will be undertaken within the department to assure against the relevant regulations and guidance.

(k) Assistant Chief Fire Officer – David Bartlett

Reporting to the Head of AFRS & Airport Control is the Assistant Chief Fire Officer and is responsible for training, development, recruitment and people within the Airport Fire and Rescue Service. This role also takes on the joint accountability for the Aerodrome Emergency Planning under AMC1 ADR.OPS.B.005(b) Aerodrome emergency planning ADR.OPS.B.005 alongside the Senior Operational Resilience Manager



(l) Head of Airport Operations – Kelly Stone

Reporting to the Director of Operations, the Head of Airport Operations is responsible for leading the Airport Duty Manager team, and further the safe and effective management of the Airport Operations Centre (APOC). Stand planning & performance is delivered through the Aircraft Operations Manager. The Head of Airport Operations is accountable for the management of the ANSP (NATS) through the appropriate contract, the Aircraft Operations Duty Manager (AODM) and the colleagues of the Aircraft Operations Unit (AOU) are responsible for the delivery of Air Traffic Control operations at Heathrow through Heathrow’s ATC service provider – NATS. The role is further responsible for monitoring the operational performance of the airlines and developing action plans to improve this in conjunction with NATS and airline customers. This is executed through the Flight Performance Team, who monitor airline compliance against environmental requirements such as noise and track keeping.

(m) Senior Operational Resilience Manager – Craig Thompson

Reporting to the Head of Airport Operations is the role of the Senior Operational Resilience Manager. This role has joint accountability for the Aerodrome Emergency Planning under AMC1 ADR.OPS.B.005(b) Aerodrome emergency planning ADR.OPS.B.005 alongside the Assistant Chief Fire Officer

1.2.2 Delegation of Responsibility

In the absence of a member of the senior management team, responsibility for the 24-hour safe operation, availability and status of the airfield rests with the Airfield Duty Manager (AfDM).

1.2.3 Changes to the role of Accountable Manager

If Heathrow appoints a new Accountable Manager, the competent authority will be notified using the appropriate form, as stipulated in CAA IN-2015/030.



1.2.4 Operational Teams

(a) Airfield Operations

Reporting to the Airfield Duty Manager on shift, the role of the Airfield Operations team is to assure the safety and availability of the airfield on a H24 basis. The team are organised on a 'watch' basis with each watch consisting of several Senior Airfield Officers, Airfield Operations Officers and Airside Transport Officers.

The Airfield Operations team is based in the Airside Operations Facility (AOF) on the Eastern side of the airfield. The control room has direct telephone lines to ATC and the HAL Airport Fire Service. There is also a 'listen out' facility on the Emergency and Crash Lines from ATC. There are various computer systems which link to the wider Heathrow operational network.

Airfield Operations carry out a series of inspections and patrols of the manoeuvring area (under the '3-Tier' approach to inspections), checking surface and lighting conditions. Airfield Operations will carry out wildlife hazard management duties, monitor the safety of works areas, and attend all airside accidents/incidents.

In the event of an aircraft accident or incident requiring the attendance of non-Heathrow emergency services, the Airfield Operations will escort them from the nominated RVP or Control Post to the incident site.

The Airfield Operations provide a marshalling service where stand entry guidance systems are unserviceable, not installed or during operational disruption and provide 'follow-me' leader services for aircraft and other service vehicles across the manoeuvring area.

The areas and distances to be covered on the airfield necessitate the use of vehicles. The vehicles are equipped with the HAL domestic trunk radio system which maintains a link between all colleagues and the AfCR control room. In addition, vehicles are equipped with airband VHF radios, and colleagues are either under the active control of ATC (for instance when on the runway) or listening out (manoeuvring area or stands). As a result, ATC can request assistance from Airfield Operations colleagues at any time. Vehicles are equipped with mobile data (4G/wi-fi) which enables tablet devices to be used in the vehicle for a variety of applications. Some vehicles are also equipped to carry out wildlife control duties, with distress call amplifiers and gun cabinets installed.

In addition, the Airfield Operations operate a fleet of vehicles to support the airfield operation. These include dry sweepers, combination sweepers and a large selection of snow clearance vehicles. Vehicles are fitted with UHF radios for the HAL domestic trunk radio system, and some are further fitted with VHF airband radios for driving on the manoeuvring area. Teams of drivers carry out daily cleaning duties around the airfield, focussing on roads, stands and walkways, in order to reduce FOD risk. The team will carry out scheduled chemical deep cleaning on stands and respond to ad-hoc sweeping requirements on the manoeuvring area as required.

In the event of an aircraft accident, the Airfield Operations will provide specialist vehicles for the incident, including emergency equipment trailers, which contain tents for shelter during the event.

Airfield Operations carry out runway friction monitoring and rubber removal duties, using specialist equipment.

Airfield Operations are also responsible for the habitat management including grass cutting, bottoming out and weed spraying in line with the Wildlife Hazard Management Plan and have a range of equipment to enable this activity.

(b) Aircraft Operations Unit

The Aircraft Operations Unit (AOU) has overall authority for stand allocation at Heathrow using appropriate systems and processes to ensure safe parking of aircraft on appropriate stands. However, due to the extensive use of Terminal 5 by British Airways, the day-to-day responsibility for stand allocation in this terminal is delegated to the airline, although HAL can override British Airways' allocation if deemed necessary. The AOU operate



under the direction of the duty Aircraft Operations Duty Manager (AODM) in APOC.

(c) Airside Standards and Assurance Team

Reporting to the Airside Standards & Assurance Manager, the Airside Operations Licencing team are responsible for assuring the performance of the airside licensees against the HAL Airside Ground Handling Licence through observations, inspections and audits. The Safety Improvement team identifies, develops and implements the safety improvement programme as well as reviewing the Airside Occurrence Tickets (AOT) issued, awarding penalty points and infringements as outlined in the Airside Driving Penalty Points scheme. The Standards and Assurance Team also maintain records and monitor trends on airside safety performance with respect to the Ground Operations Licence and Airside Operations Licence. The Safety Investigation team will review, investigate and identify root cause for reported safety events. Shared learning implement action to mitigate potential reoccurrence and share trend data with the safety improvement team

(d) Civils Delivery Team

The Civils Delivery Team report to the Head of Engineering for Airfield & Civils is to ensure the facilities on the airfield are maintained in a safe and operational state. The role is discharged by a Civils Delivery Manager Day to day delivery of the maintenance is conducted through the Civilis Delivery Engineers

(e) Airside Engineering

Reporting to the Head of Engineering for Airfield & Civils the Airside Engineering team work on a 24hr shift working basis. They are led by the Airside Operations Manager and their Duty Engineering Managers. The team carry out planned and reactive maintenance on all airfield electrical systems including Aeronautical Ground Lighting (AGL), Precision Approach Path Indicators (PAPI), Apron Lighting, Fixed Electrical Ground Power (FEGP), Stand Entry Guidance Systems (SEGS) and standby generators. As part of the maintenance plan, they also carry out light brilliancy checks of the runway lights and lux level checks on the Apron. They are also responsible for responding to and repairing faults raised through the fault reporting system.

1.3 The name, status and responsibility of persons authorised by the Civil Aviation Authority (the CAA, as the competent authority) under article 257 of the Air Navigation Order 2016 to detain aircraft at the aerodrome for safety and other, related reasons, as set out in article 257.

ASGrOps_OSI_036 – Detention of Aircraft

1.3.1 HAL has the legal powers to detain, or assist in the detention of, any aircraft at Heathrow, for a variety of reasons including (but not exclusive to) for financial purposes (non-payment of charges), aviation safety, security, or in support of a court order.

1.3.2 The detention of an aircraft will usually be carried out by the HAL Airfield Duty Manager (AfDM), acting on behalf of the Director of Operations, the Civil Aviation Authority (CAA) or under direction from a Court Official.



B.2 A description of the safety management system

2.1 Scope of the safety management system

2.1.1 Details of the Heathrow Airside Safety Management System under AMC3 ADR.OR.E.005 Aerodrome manual are all covered with this document. Part B.2.1 - B.2.2.12, can be found in the Aerodrome SMS Manual. (Excluding 2.6 and 2.8 of the above regulation)

2.2 Procedures related to the use of alcohol, psychoactive substances and medicines

2.2.1 Heathrow has a Substance Abuse policy for all its direct employees. In addition, an OSI exists for third party employees related to 'Alcohol and Classified Drugs'

ASGrOps_OSI_046 – Alcohol and Classified Drugs

2.3 A description of the method and procedures for recording aircraft movements, including movement and aircraft type, dates, and number of passengers.

2.3.1 Under its conditions of use, Heathrow requires airline operators to submit movement details for billing and operational planning purposes. Information on passenger numbers and aircraft movements is stored electronically on a database and is accessible to authorised Heathrow colleagues.

2.4 Description of the quality management system for aeronautical data and aeronautical information provision activities and related procedures, including those for meeting the relevant safety and security management objectives

2.4.1 Details of aeronautical data and aeronautical information under AMC3 ADR.OR.E.005 can be found in the Aerodrome manual, Part B 2.4 and under section part D, 5 - 6

B.3 Procedures for reporting to the competent authority including handling, notifying and reporting accidents, serious incidents and occurrences

3.1 Definition of accident, serious incident and occurrence and of the relevant responsibilities of all persons involved

3.1.1 Details of Procedures for reporting to the competent authority AMC1 ADR.OR.C.030 Occurrence reporting can be found in the Aerodrome SMS Manual under section C.8

ASSMS_OSI_065 – Mandatory Occurrence Reporting (UK reg (EU) no 376/2014)

3.2 A description of the method and procedures for recording aircraft movements including movement type and aircraft type, dates and number of passengers

3.2.1 The HAL 'Conditions of Use' require all airline operators to electronically submit to HAL daily passenger numbers and aircraft movements. This data is stored within HAL database systems and is used for statistical and financial purposes (charging). As detailed in AMC2 ADR.OR.D.035 Record keeping and as per B2.3

B.4 Aerodrome personnel qualifications and procedures, related to...

Airside_ASTrain_Standard_002 – Learning and Development

4.1 Training programme, including responsibilities, frequencies, syllabi and the identified training standards for all personnel involved in the operation, rescue and fire-fighting maintenance and



management of the aerodrome, and those persons operating unescorted on the movement area and other operational areas of the aerodrome

4.1.1 Details of Aerodrome personnel qualifications and procedures, AMC3 ADR.OR.E.005 Aerodrome manual. Part B 3 covered in the Heathrow Airside Safety Management System, section C.6. Details of the Fire Service training standards are covered in section E.10 of this manual.



C. Particulars of the Aerodrome Site

C.1 Description of the aerodrome site

- 1.1 A plan showing the distance of the aerodrome from the nearest city, town or other populous area
 - 1.1.1 A map showing the location of the aerodrome relative to the nearest city is available on the [AIS website](#).
- 1.2 Detailed maps and charts of the aerodrome showing the aerodrome's location (longitude and latitude) and boundaries, major facilities, aerodrome reference point, layout of runways, taxiways and aprons, aerodrome visual and non-visual aids, and wind direction indicators (Scale 1:2500)
 - 1.2.1 A 1:2500 scale chart, showing the position of the aerodrome reference point, aerodrome topography, markings, lighting and navigation aids is available upon request.
 - 1.2.2 The Heathrow aerodrome chart, as published in the UK AIP (section AD 2-EGLL-2-1), provides an overview of the airfield boundaries, layout of the movement area, visual and non-visual aids and wind direction indicators.
 - 1.2.3 In addition, the Heathrow 'Airfield Map' is issued to the airport community, giving a simplified combined view of the airfield layout and can be found on the [Heathrow.com/Airside website](#)

ASOther_OSI_064 Airfield Map

- 1.2.4 Heathrow is subject to constant construction and development. HAL employ a contractor to survey and update the information shown in the maps and charts. Developments on the aerodrome are incorporated when complete. The charts published in the AIP are updated on Heathrow's behalf by NATS, based on information provided by Heathrow. The Airfield Map is updated by Heathrow's own Asset Information Management Centre and is as accurate as possible at the date shown on the drawing.
- 1.2.5 The number of amendments made to the maps and charts throughout the year is dictated by the amount of significant construction or change to the airfield.
- 1.2.6 The accountability for ensuring that the appropriate maps and charts are accurate rests with the Aerodrome Compliance Manager.
- 1.3 A plan showing the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome
 - 1.3.1 With the exception of a section of the approach lighting on each runway (which are displayed on the UK AIP aerodrome chart), no significant aeronautical facilities are positioned outside the boundaries of the aerodrome.
- 1.4 Description of the physical characteristics of the aerodrome, elevations, visual and non-visual aids, as well as the information regarding the aerodrome reference temperature, strength of pavements, rescue and fire-fighting level of protection, ground aids, main obstacles and whether they are lighted
 - 1.4.1 These topics are covered in section D.2 – Aerodrome dimensions and related information.
- 1.5 Description of the types of operations that the aerodrome is approved to conduct
 - 1.5.1 Heathrow is approved to conduct public transport operations.
 - 1.5.2 Heathrow is approved to conduct operations during the day and at night.



D. Particulars of the Aerodrome Required to be Reported to the Aeronautical Information Service

D.1 The aeronautical information services available and the procedures for the promulgation of general information, including:

Airside_ASProm_Standard_004 – Aeronautical Information

1.1 Aeronautical information services available:

- 1.1.1 Detailed in section AMC3 ADR.OR.E.005 Aerodrome manual. Part D 5 - 6
- 1.1.2 In common with the rest of the UK, Aeronautical Information Services are not provided directly by Heathrow Airport Limited. The AIS is contracted and provided centrally by NATS Ltd.
- 1.1.3 UK AIS is located at – UK AIS, NATS Ltd, Room 3115, Sopwith Way, Southampton, SO31 7AY.
- 1.1.4 Most UK AIS publications are available in electronic format. The UK AIP, AIP Supplements and AICs are available on the [UK AIS website](#).

1.2 Procedures for the promulgation of general information

	Created by	Promulgated by
The name of the aerodrome	n/a	UK AIP, via NATS AIS
The location of the aerodrome	Annual Aerodrome survey	UK AIP, via NATS AIS
The geographic co-ordinates of the aerodrome reference point determined in terms of the World Geodetic System – 1984 (WGS-84) reference datum	Annual aerodrome survey	UK AIP, via NATS AIS
The aerodrome elevation and geoid undulation	Annual aerodrome survey	UK AIP, via NATS AIS



The elevation of each threshold and geoid undulation, the elevation of each runway end and any significant high or low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway	Annual aerodrome survey	UK AIP, via NATS AIS
The aerodrome reference temperature	UK Met Office	UK AIP, via NATS AIS
Details of the aerodrome beacon	n/a	n/a
The name of the aerodrome operator and contact details (including telephone numbers) of the aerodrome operator which may be contacted at all times	n/a	UK AIP, via NATS AIS

The annual aerodrome survey is commissioned by Heathrow and carried out by a specialist contractor (currently SLC Ltd).

The accountability for the initiation, management and promulgation of the aerodrome survey rests with the Aerodrome Compliance Manager.

On-going changes to the aerodrome infrastructure or facilities are promulgated via the AIS provider and published in the UK AIP. These changes are requested by the Aerodrome Compliance team (for aerodrome changes) or by NATS (for navigational aids changes).

Short term changes to infrastructure or facilities are promulgated via NOTAM and/or ATIS. These are generally submitted by the Airfield Duty Manager (for aerodrome changes) or by NATS (for navigational aids changes).



D.2 Aerodrome dimensions and related information, including...

2.1 Runway – true bearing, designation number, length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone

Designation	09L	27R	09R	27L
True Bearing	089, 24' 07"	269, 26' 32"	089, 24' 53"	269, 27' 08"
Length (based on UKTM)	3901m	3901m	3658m	3658m
Width	50m			
Shoulders (each side)	Between A1 and A11 = 20.5m; Between A11 and A13 = 12.5m	Between A1 and A11 = 20.5m; Between A11 and A13 = 12.5m	Between N1 and N7 = 20.5m; Between N7 and N11 = 12.5m	Between N1 and N7 = 20.5m; Between N7 and N11 = 12.5m
Displaced Threshold	309m	n/a	308m	n/a
Slope	Non-Significant			
Surface Type	Grooved Asphalt			
Type of Runway	CAT IIIB Precision Approach	CAT IIIB Precision Approach	CAT IIIB Precision Approach	CAT IIIB Precision Approach
Existence of OFZ	Yes			

2.2 Length, width and surface type of strip, runway end safety areas, stopways; length, width and surface type of taxiways; apron surface type and aircraft stands, clearway length and ground profile

2.2.1 All runways have a 280m wide **strip**, extending to 60m past the ends of each runway.

2.2.2 **Runway End Safety Areas** are provided for each runway, of the following sizes;

2.2.3

	Undershoot RESA Dimensions (m)	Overrun RESA (Landing) Dimensions (m)	Overrun RESA (Take-off) Dimensions (m)
09L	240 x 210	240 x 210	240 x 210
27R	240 x 210	240 x 182*	240 x 182
09R	240 x 210	240 x 210	240 x 210
27L	240 x 210	240 x 210	240 x 210

* = The 27R Overrun RESA (Landing) Dimensions (m) and Overrun RESA (Take-off)



Dimensions (m) are different due to the position of the Terminal 5 balancing pond.

2.2.4 No **stopways** are provided at Heathrow.

2.2.5 A **clearway** of length 78m is provided for runway 27R only. The clearway is of concrete construction and has no significant changes in ground profile.

2.2.6 **Taxiways & Taxilanes** are constructed as follows...

Designator	Construction	Code	Width (m)	Strip Width (m)
Alpha (West)	Concrete	E	23	40 – 47.5
Alpha (South)	Concrete/Asphalt	F	25	48.75 – 53
Alpha (East)	Concrete/Asphalt	F	25	47.5 – 57.5
Alpha (North)	Concrete/Asphalt	E/F	23/25	45.5 – 53
Bravo (West)	Concrete	E	23	40 – 47.5
Bravo (South)	Concrete/Asphalt	F	25	48.75 – 57.5
Bravo (East)	Concrete/Asphalt	F	25	50 – 55
Bravo (North)	Concrete/Asphalt	F	25	47.5 – 50
Charlie	Concrete	F	25	52 – 55
Delta	Concrete	F	25	52.5 – 55
Echo	Concrete	F	23	48.6 – 55
Foxtrot	Concrete	E*	23	42.5 – 50
Golf	Asphalt	E	23	40 – 47.5
Hotel	Concrete	E	23	42.5 – 47.5
Kilo	Concrete	F	25	51.5 – 55
Lima	Concrete	F	25	52 – 55
Mike	Concrete/Asphalt	E*	23	40 – 43
Romeo	Concrete	E	23	42.5 – 47.5
Sierra	Concrete/Asphalt	E*/F	23	37 – 55
Tango	Concrete	E/F	23/25	40 – 49
Victor	Asphalt	E	23	40 – 47.5
Whiskey	Concrete/Asphalt	E*	23	49.5
Yankee	Concrete	C	18	24.5



Zulu	Concrete	D*	23	37
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Link Taxiways

Link 11	Asphalt	E	23	47.5
Link 12	Asphalt	E	23	47.5
Link 13	Asphalt	E	23	47.5
Link 21	Asphalt/Concrete	F	25	55
Link 22	Asphalt/Concrete	F	23/25	55
Link 23	Asphalt/Concrete	E*/F	25	47.5 – 55
Link 25	Concrete	E	23	47.5
Link 26	Concrete	F	25	49 / 55
Link 27	Concrete	F	25	55
Link 28	Concrete	E/F	23/25	43.5 – 55
Link 29	Concrete	F	25	55
Link 30	Concrete	F	25	55
Link 31	Concrete	F	25	55
Link 32	Asphalt	F	25	55
Link 33	Asphalt	F	25	55
Link 34	Asphalt	F	25	55
Link 35	Asphalt	E	23	47.5
Link 36	Concrete	E	23	42 – 47.5
Link 41	Concrete	E	23	43 – 47
Link 42	Concrete	E*	23	50
Link 43	Asphalt	F	25	55
Link 44	Asphalt	E*	23	47.5 – 55
Link 51	Concrete	F	25	55



Link 52	Concrete	F	25	50 – 53
Link 53	Concrete	F	25	50 – 53
Link 54	Concrete	E	23	42.5
Link 55	Concrete	E	23	42.5
Link 56	Concrete	F**	25	50 – 57
Link 57	Concrete	F	25	50 – 53
Link 58	Concrete	E	23	40 – 47.5
Link 60	Concrete	F	25	55

* = Route is available for a higher aircraft code than constructed (i.e. Code F use taxiway constructed to some or all Code E dimensions)

** = Route is operationally restricted to lower code than as constructed safety case to support

2.2.7 Aprons are, in the vast majority of cases, constructed of concrete. Stand 357 (on Bravo – North) is the only remaining stand constructed using block paving.

2.3 Visual aids for approach procedures, approach lighting type and visual approach slope indicator system; marking and lighting of runways, taxiways and aprons; other visual guidance and control aids on taxiways and aprons, location and type of visual docking guidance system; availability of standby power for lighting.

2.3.1 Heathrow's aerodrome lighting is suitable for precision approach categories II and III operations. Taxiway lighting systems and signs are suitably equipped for operations below 350m RVR.

2.3.2 No **aerodrome beacon** is installed.

2.3.3 Approach lighting for all runways is constructed as follows;

- (a) Full Calvert coded centrelines and five-bar system.
- (b) The lights are all uni-directional, high intensity, white, and beamed at 6° (threshold) to 9° (outer bar) to the horizontal.
- (c) Supplementary high intensity approach lighting system over the inner 300m of the approach. This consists of 27 barrettes of 4 lights each, arranged in 9 rows of three, symmetrically each side of the extended runway centreline.
- (d) The SAL's are uni-directional, high intensity, white (centre barrette) or red (outer barrettes) and beamed at the same angles as the corresponding approach lighting.
- (e) Runway 27L approach lighting is provided using LED fittings. All other runways use traditional halogen fittings.
- (f) The following lights have been removed due to interference with other systems:
 - (i) Runway 09L; paired fitting 570m before the threshold
 - (ii) Runway 27R; paired fitting 420m before the threshold
 - (iii) These missing lights represent less than 2% of the system. This is detailed in section 2.13
- (g) The approach lights are flight checked twice a year

2.3.4 All runways are equipped with a single bar **PAPI** on the left side, comprising four triple projector units. Each circuit is fitted with lamp failure detection.

2.3.5 Runway lighting is constructed as follows;



- (a) Green **threshold lights** at each landing threshold. These 18 lights are uni-directional, flush, high intensity, and are full width, supplemented by wing bars of four lights each side.
- (b) **Centreline lights** at 15m spacing. The lights are bi-directional, flush, high intensity, and beamed at 5° to the horizontal for the first 900m of each runway direction, and 3° for the remainder. The lights are white up to 900m from the runway end, with the following 600m alternate red and white, and the final 300m all red in colour.
- (c) **Edge lights** at 60m spacing. These lights are positioned at 25m either side of the centreline. These lights are bi-directional, flush, high intensity, and white.
- (d) **Touchdown zone lights** over the first 900m of each runway direction. These consist of 24 barrettes of four lights, arranged in twelve rows, each barrette positioned symmetrically each side of the runway centreline. The lights are uni-directional, flush, high intensity, and white.
- (e) **Runway stop end lights** at each runway end. These lights are uni-directional, flush, high intensity, and red.

2.3.6 Taxiway lighting is constructed as follows;

- (a) The airfield is equipped with bi-directional green **centreline lighting**, installed on all sections of the taxiway. Lighting is selectively switchable on all routes. The lights are spaced at appropriate intervals for operations in RVR of less than 350m.
- (b) **Stop bars** are installed at taxiway intersections and are linked to the selective switching of the centreline lights. These are comprised of high intensity red lights either side of the centreline.
- (c) **At runway entrances**, high intensity, bi-directional runway guard **bars** are installed. Bars are located at CAT I and CAT II/III or at CAT I/II/III holding positions. Runway guard bars are illuminated 24 hours a day and are suppressed in conjunction with a verbal ATC clearance to allow aircraft or vehicle access to the runway.
- (d) **Runway Guard Amber (“wig-wags”)**, comprising low level amber flashing lights, are installed at all taxiway/runway intersections (including CAT II/III holding positions). Each light unit is fitted with lamp failure detection.
- (e) The **taxiway centreline lights** located within the ILS sensitive area are colour coded to show alternate green and yellow in both directions. These lights commence with a green light close to the runway centreline 30-60m before the intersections and end with a yellow light at the end of the ILS sensitive area.
- (f) An **interlock system** is fitted to the taxiway centrelines on runway lead ons/off. The system controls each side of the holding point stop bars independently and is linked to the first 90m of the taxiway centreline lights. The system ensures that traffic on a taxiway destined for the runway is not able to identify (and therefore follow) a continuous lit centreline onto the runway, without the red stop bar first being suppressed.

2.3.7 Helicopter aiming point lighting is provided by 6 low intensity omni-directional inset white lights

2.3.8 Variable intensity lighting is available for approach, runway and taxiway lighting, and is controlled by ATC. Brilliances are available in accordance with the following table...

2.3.9 Taxiway crossings on the road network are identified with additional signage both on the taxiway surface and also on the road surface and adjacent sign board. This consists of the following;

- (a) Taxiway surface – ‘Vehicle Crossing Ahead’ paint markings circa 30m away from the crossing on either side
- (b) Road surface – ‘STOP’ painted at the crossing entrance
- (c) Signage board adjacent to the road displaying the instruction to STOP , and give way to both vehicles and aircraft on the taxiway



2.3.10

All Runways

	Approach (inc. Threshold)	Supp'l Approach	TDZ	Runway Centreline	Runway Edge and Stop End	PAPI	Time
1	100%	100%	100%	100%	100%	100%	Day
2	100%	0	0	100%	100%	80%	Day
3	30%	30%	100%	100%	100%	80%	Night
4	10%	10%	30%	30%	30%	30%	Night
5	3%	0	10%	10%	10%	10%	Night
6	1%	0	1%	1%	1%	1%	Night

Taxiways

100%, 30% and 1% brilliancy options are available.

2.3.11 Signals are provided as follows;

- (a) The airfield has four illuminated wind sleeves located in grass areas near to the respective runway thresholds. There are no other signalling items.

2.3.12 Runway signage is provided as follows;

- (a) Positional information signs are located at each runway exit. They are on the reverse side of the respective runway-taxiway holding point sign.

2.3.13 Taxiway signage is provided as follows;

- (a) Illuminated taxiway information signs are provided.
- (b) Taxiway location signs are coloured yellow-on-black. Directional signage is black-on-yellow. Intermediate taxi-holding position signage is coloured white-on-red.
- (c) The main taxiways are referred to by letters (i.e.. A, B, C...) Connecting taxiways are referred to as 'links' (i.e.. Link 11, Link 12, Link 13...)
- (d) Intermediate taxi-holding positions are referred to by letter/number (i.e.. C1, D2, AY5...)

2.3.14 Runway-Taxiway holding areas and holding position signage is provided as follows;

- (a) The departure runway holding area is surrounded by reporting points (i.e.. PLUTO, HORKA...) which are marked by white-on-red illuminated mandatory signs.
- (b) Runway-Taxiway holding positions providing access to, or egress from a runway, are signified by location signs (e.g., A1, N2E, SB3...) and by the appropriate mandatory white-on-red runway designator and/or CATI and CAT II/III signs located at the respective positions.

2.3.15 Apron lighting is provided as follows;



(a) Apron lighting pylons with multiple LED lamp fittings are provided on all apron areas.

2.3.16 Apron signage is provided as follows;

(a) Each stand has an illuminated sign showing the stand number. This can be part of the Visual Docking Guidance System, or as a stand-alone sign.

2.3.17 Runway markings are provided as follows;

(a) Runway designation, threshold, centreline, edge markings, touchdown zone and aiming point markings. All runway markings are white in colour.

(b) Yellow taxiway markings at appropriate points provide guidance off the runways onto the taxiway system.

2.3.18 Taxiway markings are provided as follows;

(a) Taxiway centreline markings are an unbroken yellow line. Intermediate Taxiway Holding positions are marked by a perpendicular broken yellow line.

(b) Taxiway edge markings are provided in some parts of the airfield.

(c) There are some guidance markings painted on the taxiways, such as stand number indicators and taxiway designations where deemed appropriate.

(d) All Runway/Taxiway holding positions have the appropriate markings for CAT I, CAT II/III, or CAT I/II/III operations.

(e) Most runway/taxiway holding positions have 'Runway Ahead' markings and/or enhanced centreline markings, these locations are at runway crossing points or where the potential to enter a runway strip is greater.

(f) All taxiway/taxilanes vehicle crossings are demarcated using black and white surface markings. This is supplemented on the taxiway/taxilanes surface with a 'Vehicle Crossing Ahead' paint marking

(g) Unserviceable area on the airfield are marked with a yellow cross

2.3.19 Apron markings are provided as follows;

(a) A double white line is used to demarcate between the manoeuvring area and the apron.

(b) Stand centrelines are marked in continuous yellow, with secondary (MARS) centrelines painted in yellow/white alternating.

(c) Stands are marked with stopping positions to aid with aircraft positioning for towed and marshalled movements.

2.3.20 The helicopter aiming point is marked as follows;

(a) A white equilateral triangle measuring 18m on each side, is located on the taxiway system – in Link 43.

2.4 The location and radio frequency of VOR aerodrome checkpoints

2.4.1 No VOR aerodrome checkpoints are installed.

2.5 The location and designation of standard taxi routes

2.5.1 Taxi routes are published in the UK AIP ground movement chart (AD 2-EGLL-2-2)

2.5.2 A separate 'Code F' taxi route map is also produced and published in the UK AIP (AD 2-EGLL-2-3)

2.6 The geographical co-ordinates of each threshold, appropriate taxiway centreline points and aircraft stands

2.6.1 Co-ordinates of each threshold are published in the UK AIP (Aerodrome Chart; AD 2-EGLL-2-1)

2.6.2 Co-ordinates of each stand are published in the UK AIP (Aircraft Ground Movement/Parking; AD 2-EGLL-2-4,5,6,7)

2.6.3 Taxiway centreline co-ordinates are not published.



2.7 The geographical co-ordinates and the top elevation of significant obstacles in the approach and take-off areas, in the circling area and in the surroundings of the aerodrome (in the form of charts)

2.7.1 Significant obstacles on and around the aerodrome are published in the UK AIP.

Notable charts showing this information are;

(b) Aerodrome Chart; AD 2-EGLL-2-1

(c) Standard Departure Charts – Instrument; AD 2-EGLL-6-x

(d) Standard Arrival Charts, Instrument Approach Charts; AD 2-EGLL-7-x; AD 2-EGLL-8-x

2.7.2 Lists of obstacles, co-ordinates and elevations are also published in text format in the UK AIP, section EGLL AD 2.10.

2.8 Pavement surface type and bearing strength using the Aircraft Classification Number – Pavement Classification Number (ACN-PCN) method

2.8.1 Runways 09L/27R and 09R/27L have a PCN of **83/F/A/W/T**, sufficient for all aircraft types currently operating from Heathrow.

2.8.2 The remainder of the movement area is suitably constructed for the aircraft operating from Heathrow.

2.9 Pre-flight altimeter check locations established and their elevation

2.9.1 No altimeter check locations are established at Heathrow.

2.10 Declared distances (based on UKTM)

	TORA	TODA	ASDA	LDA
09L	3901m	3901m	3901m	3592m
27R	3882m	3960m	3882m	3882m
09R	3658m	3658m	3658m	3350m
27L	3658m	3658m	3658m	3658m

2.10.1 The most up-to-date declared distances, including those for intersection departures, may be found in the UK AIP, in section EGLL AD 2.13

2.11 Contact details (telephone/telex/fax numbers and e-mail addresses) of the aerodrome co-ordinator for the removal of disabled aircraft, expressed in terms of the largest aircraft type

2.11.1 Heathrow does not nominate an aerodrome co-ordinator for disabled aircraft removal.

2.11.2 The Heathrow representative at any incident involving a disabled aircraft will be the Airfield Duty Manager (AFDM), who may be contacted on 0208 745 7373, or airfield_duty_manager@heathrow.com



2.12 Rescue and fire-fighting level of protection, types and amounts of extinguishing agents normally available at the aerodrome

2.12.1 RFF Category at Heathrow is **10**

2.12.2 The quantities of water, foam and complementary agents appropriate to AFRS Category 10 are available for immediate discharge and exceed the requirements of CAA Regulation; AMC4 ADR.OPS.B.010(a)(2) Rescue and firefighting services

2.12.3 At all times the AFRS will provide the number of vehicles and quantities of media described in AFRS Volume 1 Administration, Chapter 12 – section 12.1.

2.12.4 The main complementary media is Monnex and is regarded as a high performance dry powder. Refer to AFRS Volume 1 Administration, Chapter 12 – section 12.1.1, for further information.

2.13 Exemptions or derogations from the applicable requirements, cases of equivalent level of safety (ELOS), special conditions (SC, National SC & DAAD) and limitations

Element	Exemption	Section	Detail of exemption
CS ADR-DSN.A.005	(N) SC	AERODROME REF CODE	The UK determines the Aerodrome Reference Code Number (code element one) from the greater value of TODA or ASDA, and not the Aeroplane Reference Field Length.
CS ADR-DSN.B.075	SC	RUNWAYS	Short distances on the runways fail to meet the gradient change specification.
CS ADR-DSN.B.130	SC	RUNWAYS	Short sections of the transverse slope of the runway shoulders exceed 2.5%
CS ADR-DSN.B.180	SC	RUNWAYS	Longitudinal slope along short sections of the runway strip exceed the specification.
CS.ADR.DSN.D.250	SC	TAXIWAYS	Minimum clearance distance not provided on a taxiway curve at A6 when tracked cockpit-over-centreline.
CS ADR-DSN.D.260	SC	TAXIWAYS (Runway to Taxiway Separation Clearance)	Minimum runway to taxiway separation distances are not met at the following locations; <ul style="list-style-type: none"> - Sierra abeam hold S7 - Sierra between S6 and AVROE
CS ADR-DSN.D.260	SC	TAXIWAYS (Taxilane centreline to object clearance – Code E)	Minimum taxilane centreline to object clearance distances (Code E) are not met at the following location; <ul style="list-style-type: none"> - Zulu



Element	Exemption	Section	Detail of exemption
CS ADR- DSN.D.260	SC	TAXIWAYS (Taxiway centreline to object clearance – Code E)	Minimum taxiway centreline to object clearance distances (Code E) are not met at the following locations; <ul style="list-style-type: none"> - Foxtrot between F1 and Golf - To the South of Sierra between S7 and SY6 (Code D/E)
CS ADR- DSN.D.260	SC	TAXIWAYS (Taxiway centreline to object clearance – Code F)	Minimum taxiway centreline to object clearance distances (Code F) are not met at the following locations; <ul style="list-style-type: none"> - To the East of Alpha at MORRA - To the East of Link 23, between Alpha & Link 21 - To the West of Whiskey, abeam the Royal Suite Apron and stands 454-456. - To the North of Bravo (S) between Link 32 and Kilo - East and West of Echo between Link 35 and Link 36 - To the South of Sierra between stands 601 and 609 - To the South of Sierra between Tango and Victor - To the South of Tango between stands 405 and 412 - To the East and West of Link 42 - To the South of Link 44
CS ADR- DSN.D.280	SC	TAXIWAYS	A small number (7) of localised sections of taxiway do not meet the required transverse slope requirement.
CS ADR- DSN.D.315	SC	TAXIWAYS	Taxiway strip width is not met at various places around the airfield.
CS ADR- DSN.D.330	SC	TAXIWAYS	Slopes on taxiway strips – various non-significant non-compliances around the airfield.



Element	Exemption	Section	Detail of exemption
CS ADR-DSN.D.335/340	(N) SC	TAXIWAYS	Displaced landing thresholds are provided and aircraft at full length holding points infringe the approach surface.
CS ADR-DSN.E.360	SC	APRONS	Numerous stands exceed the maximum permitted slope (transverse or longitudinal)
CS ADR-DSN.E.365	DAAD	APRONS	Clearance distances on some aircraft stands do not meet the specification.
CS ADR-DSN.L.535	SC	MARKINGS	There is no specification for the number of 'piano keys' a 50m runway should have – however Heathrow has the equivalent number for a Code F (45m) runway.
CS ADR-DSN.L.570	DAAD	MARKINGS	Heathrow has a number of enhanced taxiway centreline markings which have 2m dashes rather than the required 3m.
CS ADR-DSN.L.597	SC	MARKINGS	Heathrow uses an equivalent marking for apron service roads which cross taxiways.
CS ADR-DSN.M.635	SC	LIGHTS	Two of the approach lighting systems (27R, 09L) have a pair of centreline lights missing in order to protect the integrity of the ILS signal.
CS ADR-DSN.M.710	(N) SC	LIGHTS	Turn-off lights show amber/green in both directions – the specification requires green approaching the runway.
CS ADR-DSN.M.715	SC	LIGHTS	Spacing between lights on one runway exit (A13) is larger than the specification.
CS ADR-DSN.M.730	SC	LIGHTS	Red stop bars protecting a runway at Heathrow are bi-directional (not uni-directional as per the specification) High intensity lights are used on red stop bars (not low intensity as per the specification)
CS ADR-DSN.M.750	SC	LIGHTS	Some stands do not meet the requirement of a 'uniformity ratio of not more than 4:1'
CS ADR-DSN.N.770	(N) SC	LIGHTS	Where installed at Heathrow, road holding points have flashing amber lights not red as per the specification.



Element	Exemption	Section	Detail of exemption
CS ADR- DSN.M.775	SC	LIGHTS	The light output of illuminated airfield signage cannot be measured in situ.
CS ADR- DSN.M.785	SC	LIGHTS	Signs at intersections are not located at a minimum of 60m from the centreline of the intersecting taxiway as per the specification. Heathrow does co-locate mandatory signs with other signs.
CS ADR- DSN.M.795	(N) SC	LIGHTS	Stand number indication boards are yellow-on-black rather than the specification of black-on-yellow.
CS ADR- DSN.Q.840, 846, 847	DAAD	OBSTACLES	There are numerous objects which penetrate the northern transitional surface of runway 09L/27R, and a small number which penetrate the TOCS for 27L. None of these objects are marked or lit.
CS ADR-DSN.R.870	DAAD	VISUAL AIDS	Heathrow uses cones/blocks that are 0.3m high for marking unserviceable areas.
CS ADR- DSN.T.915	DAAD	EQUIPMENT	Blast wall to the East of Echo between Link 35 & Link 36 is within the taxiway strip.



E. Particulars of the operating procedures of the aerodrome, its equipment and safety measures

E.1 Aerodrome reporting, including:

Airside_ASProm_Standard_004 – Aeronautical Information

1.1 Arrangements and procedures for reporting changes to the aerodrome information set out in the AIP and requesting the issue of a NOTAM, including reporting changes to the Competent Authority and recording the reporting of changes

- 1.1.1 Responsibility for ensuring that information within the AIP is up-to-date rests jointly with HAL, NATS and the Department for Transport.
- 1.1.2 The HAL Aerodrome Compliance Manager (ACM) is responsible for maintaining the AIP with respect to aerodrome facilities, obstructions, some Local Traffic Regulations, and the airfield charts.
- 1.1.3 NATS are responsible for maintaining flight procedures and associated charts.
- 1.1.4 The Department for Transport is responsible for noise abatement procedures.
- 1.1.5 Changes to the AIP are notified to AIS via the submission of a 'Change Request' on the Aurora System. Records of changes submitted by HAL are kept by the ASAM and ACM.
- 1.1.6 Information related to the airfield operational state, or temporary changes of an immediate nature, are promulgated via NOTAM by the HAL Airfield Duty Manager (AfDM). The AfDM is responsible for determining the requirements for promulgation and actioning accordingly.
- 1.1.7 The AfDM will issue a NOTAM by submitting an electronic NOTAM proposal via the AFPEX portal online.
- 1.1.8 The AFPEX portal keeps records of NOTAMS submitted for publishing by Heathrow.

1.2 Procedures and frequencies for aeronautical data surveying

Airside_ASProm_Standard_004 – Aeronautical Information

- 1.2.1 Responsibility for the initiation, management and promulgation of aeronautical data surveys rests with the HAL Aerodrome Compliance Manager (ACM)
- 1.2.2 The ACM commissions an approved survey company to carry out a 'full' or 'check' survey on a yearly basis. The current preferred supplier for aerodrome surveying is SLC Ltd.
- 1.2.3 Upon completion, the survey data is checked and analysed for completeness and significant changes. Particular attention is paid to changes on the aerodrome and in the approach and take-off funnels. Changes are recorded and incorporated in the appropriate documentation. The third-party survey company is then instructed to forward the survey data to NATS Airport Services.
- 1.2.4 NATS will then check the content of the survey using appropriate computer software.



Once validated, a set of 'Type A' charts are produced for the approval of the ACM.

- 1.2.5 On approval, the full survey is published, and the aerodrome charts and AIP amended if necessary.
- 1.2.6 Any significant new obstacles identified are investigated, and if necessary/possible, removed.
- 1.2.7 A copy of the latest survey is held by the ACM.

E.2 Procedures for accessing the aerodrome movement area, including:

2.1 Coordination with the security agencies

- 2.1.1 Heathrow works with various security agencies to assure safety of passengers and aircraft. Heathrow has an internal security function, who carry out screening of passengers, colleagues and vehicles through various security areas around the airport. Heathrow also has its own dedicated branch of the Metropolitan Police Service (SO18 – Aviation Policing).
- 2.1.2 Heathrow provides statutory access to the aerodrome for security agencies and competent authority inspectors.
- 2.1.3 At an aircraft incident, the Airfield Duty Manager (AfDM) will liaise with the Met Police incident commander to co-ordinate activities, and where appropriate, provide scene preservation for evidential purposes.

2.2 Prevention of unauthorised entry into the movement area

- 2.2.1 The full perimeter of the airfield is protected by an anti-intruder fence.
- 2.2.2 Colleagues and vehicular access through the fence is provided at Control Posts staffed by HAL Security colleagues. Control posts will also provide access from the Central Terminal Area (CTA) onto the movement area. Control post locations are shown on the HAL aerodrome map.
- 2.2.3 Pedestrian access through control posts or from terminal areas onto the aprons is controlled by means of an ID Card swipe system (known as MAID) which ensures that holders are permitted access only to areas of the airport for which they have a recognised need for access.
- 2.2.4 Vehicles using control posts to access the movement area are subject to search by HAL Security colleagues, and only vehicles with a valid license (Vehicle Apron Pass) are permitted access.
- 2.2.5 HAL operates a licencing policy for all operators of vehicles airside, which, among other things, specifies the number of vehicles a company may operate airside. Acceptance of the licence also directs operating companies to abide by the appropriate Operational Safety Instructions (OSI) issued by HAL, which further define the safety requirements for companies operating airside.
- 2.2.6 All personnel and vehicles are screened in accordance with the requirements of the National Aviation Security Programme (NASP). The application of HAL's security procedures can be found in the Airport Security Programme, published annually, with more detailed procedures contained in the HALSEC Operations Manual. Security requirements for airport users are published via a series of Airport Security Notices.
- 2.2.7 There are several emergency gates around the airfield, which provide access to Rendezvous Points and remote areas. The gates are kept locked when not in use, and keys tightly controlled. A common padlock is used across all gates. Keys are held by HAL Security, the Airside Operations Department, Airport Fire Service and Metropolitan Police.
- 2.2.8 Signage is placed at regular intervals around the perimeter, warning of the aircraft movement area, and that unauthorised entry is not permitted. The boundary of the Critical



Part of the Security Restricted Zone (CPSRA) is also signed with mandatory security notices.

2.2.9 There are two significant ‘Other’ security restricted areas on the airfield (those outside the Critical Part) – British Airways and Virgin Atlantic maintenance facilities which are outside the licenced boundary, and the cargo facility south of runway 09R/27L. Access to and from these areas is controlled and the boundary between these areas and the Critical Part is managed by HAL Security and protected using a radar system.

E.3 Procedures and responsible personnel for the inspection, assessment and reporting of the condition of the aerodrome movement area and other operational areas and facilities, (including runway surface friction characteristics assessments and water-depth measurements), including:

3.1 Inspection intervals and times; reporting results and follow up actions

Airside_ASInsp_Standard_008 – Airfield Inspections
Airside_ASInsp_Standard_009 – Apron Floodlighting Illuminance Checks

3.1.1 The Airfield Operations team is responsible for ensuring compliance with the certification requirements laid down by CAA. To do this, a series of inspections of the movement area are carried out in a ‘three-tier’ methodology. The three-tier inspection regime is a series of inspections on the movement area and associated airfield ground lighting systems.

	Description
Level 1 (L1)	<p>A routine daily inspection of the movement area and airfield ground lighting by the colleagues of the Airfield Operations team. This inspection is generally carried out from a vehicle, and covers all the movement area (Runways, Taxiways, Stands and Roads) and includes a horizon scan of the surrounding area looking for objects with the potential to infringe the OLS.</p> <p>Any equipment faults or defects found are reported to the Engineering Help Centre for passing to the respective engineering teams for rectification.</p>
Level 2 (L2)	<p>A more detailed inspection of a specific area is carried out by Airfield Operations under the ‘Taxiway and Stands Monitoring System’ (TMS & SMS) and Runways.</p> <p>The taxiways, associated lighting and stands are each divided into 32 areas, with one area of each being inspected per day. Runways are inspected at a frequency of half a runway each week. This inspection is either carried out from a vehicle, or on foot. Lighting and runway inspections are carried out at night, with taxiway and stand surface inspections during daylight hours.</p> <p>Any equipment faults or defects found are reported to the Engineering Help Centre for passing to the respective engineering</p>



	teams for rectification.
Level 3 (L3)	<p>An audit/inspection carried out by members of the airside management team on a bi-weekly basis. The airfield is split into inspection zones, which results in each zone being inspected around 3.5 times per year.</p> <p>This inspection checks L1 and L2 performance and allows the management team to gain a perspective of the operational condition of the airfield.</p> <p>A walking inspection of the runways is carried out Every five months by the airside management team and will include representatives from wider departments, including engineering.</p>

3.1.2 Runway Surface Inspections (L1) are carried out as follows;

- (a) Four routine surface inspections are carried out during the operational day. These are;
 - (i) Pre-Operations – carried out before the first arriving aircraft. During certain months of the year this is carried out during the hours of darkness; Airfield Operations vehicles are fitted with high power LED inspection lights to carry out the task.
 - (ii) AM – mid-morning; usually between 0900z and 1030z
 - (iii) PM – mid-afternoon; usually between 1400z and 1500z
 - (iv) Dusk – surface and lighting inspection
- (b) The pre-operations and dusk inspections are carried out by a single Airfield Operations vehicle. The AM and PM inspections are carried out using two vehicles. All vehicles are in active radio contact with ATC at all times.
- (c) Additional inspections are carried out as required. These may be at the request of ATC, for instance after an aborted take-off, certain categories of emergency, or during inclement weather conditions. Inspections may also be instigated by the Airfield Operation, for instance following a ‘FOD Radar’ activation.
- (d) Inspectors are trained to note and report anything which may affect the category or serviceability of the runway, including surface conditions, paint markings, lighting, FOD, obstructions or bird control. The inspector will take action appropriate to the issue, which may include raising engineering work orders, or in extreme cases where aircraft safety is at immediate risk, suspending operations on the affected runway via ATC. The inspector will also inform the Airfield Operations control room and the Airfield Duty Manager (AfDM). The AfDM will co-ordinate actions with other departments or ATC if escalation is required.

3.1.3 Runway lighting inspections are carried out as follows;

- (a) Surface lighting inspections (thresholds, stop ends, TDZ, centreline, edge lights etc.) are carried out by Airfield Operations each night as part of the dusk inspection.
- (b) The colleagues of the Airfield Operations team carry out an inspection of one of the sets of approach lights each night on a rotation basis. The approach lights are checked for calibration by Airside Engineering every 6 months.
- (c) Inspectors are trained to note and report anything which may affect the category or serviceability of the runway. Lighting faults which affect the runway category are reported to Airfield Operations and the AfDM for escalation to ATC and engineers for rectification.
- (d) PAPI units are inspected for serviceability by the Airfield Operations team as part of the ‘first light’ runway surface inspection. The units are inspected for correct setting angle once per week by Airside Systems, and if necessary are adjusted in situ. PAPI units may also be checked for alignment on the request of Airfield Operations or ATC – for instance following a pilot report of misalignment, or an incident where an aircraft under or over-shoot has occurred.



- (e) Each month, Airside Systems check the runway light output using a MALMS portable photometric unit. The check covers TDZ, centreline and edge lights. Lights that are below specified levels are cleaned or changed as part of the maintenance programme. Detailed records are held by Airside Systems.
- (f) Runway light cleaning takes place once per week, and will attend to a group of runway lights, such as the centreline, edge lights or threshold/stop end. Particular attention is paid to lights which have underperformed in the photometric check (MALMS) carried out by Airside Systems.
- (g) Flight check Flight lighting checks of all approach and runway lighting shall be completed at least once every 6 months. Flight checks of PAPI units must be completed at least every 6 months.

3.1.4 Runway turn-off lighting inspections are carried out as follows;

- (a) Each night, Airfield Operations colleagues carry out a detailed L2 inspection of a number of runway turn-offs.
- (b) All runway turn offs are inspected over a 14 day period.
- (c) The inspection covers the serviceability and function of the lead-on, lead-off, stop bar (CAT I and CAT II/III where applicable), and '90m interlock' functionality.
- (d) The inspection is carried out in conjunction with ATC. A common set of 'steps' are followed by the controller and Airfield Operations colleagues carrying out the inspection, which allows each route and stop bar to be checked in turn.
- (e) Any unserviceable fittings or failures in functionality are reported to the Engineering Help Centre or escalated via the AfDM if required.

3.1.5 Taxiway surface inspections are carried out as follows;

- (a) Level 1 inspections are carried out by the colleagues of Airfield Operations in an appropriately equipped vehicle. The colleagues operate on a 'listening out' basis with ATC at all times. The taxiways are inspected on a Level 1 basis 3 times in a 24 hour period.
- (b) Inspectors are trained to note and report anything which may affect the serviceability of the taxiway, including surface condition, paint markings, FOD, lighting and pit/drain covers. The inspection also covers runway guard lights, signs, work-in-progress and bird control.
- (c) Inspectors will take appropriate action, which may include raising engineering work orders, or in extreme cases where aircraft safety is at immediate risk, closing the taxiway (via ATC). The inspector will also inform the Airfield Operations control room and the AfDM.
- (d) Additional inspections are carried out at the request of ATC, after a taxiway closure, or at the cessation of works/maintenance.
- (e) A more detailed, Level 2 inspection is carried out each day under the 'Taxiway Monitoring System'. This involves a slow speed driving or walking inspection of a particular area of taxiway. The whole taxiway system is inspected to a Level 2 standard over a 32 day period. Inspectors will raise maintenance requests via the Engineering Help Centre or flag areas for monitoring. Results from these inspections are used to inform preventative or minor maintenance requirements and wider decisions on capital asset replacement programmes.
- (f) A More detailed L3 inspection is carried out by members of the airside management team on a bi-weekly basis. The airfield is split into inspection zones, which results in each zone being inspected around 3.5 times per year

3.1.6 Taxiway lighting inspections are carried out as follows;

- (a) A general L1 inspection of the taxiway lighting is carried out each evening by the Airfield Operations team as part of a routine patrol regime.
- (b) A more detailed L2 inspection of one area per night is carried out under the 'Taxiway Monitoring System'. The whole taxiway lighting system is inspected in detail over a 32 night period.
- (c) The inspection is carried out in conjunction with ATC. A common set of 'steps' are followed by the ATC lighting panel operator (LPO) and Airfield Operations colleagues carrying out the inspection, which allows each green selectable route and red stop bar to be checked in turn.
- (d) The inspector will take appropriate action to address defects when found, which may include



raising work orders via the Engineering Help Centre, or in serious cases may require the closure of a section of taxiway.

- (e) Results from the inspections are used to inform reactive or preventative maintenance requirements.

3.1.7 Aprons & stand equipment inspections are carried out as follows;

- (a) Level 1 inspections of apron areas are carried out by Airfield Operations colleagues in a suitably equipped vehicle. Inspections are completed 4 times in each 24-hour period.
- (b) A more detailed L2 inspection of one area per day is carried out under the 'Stands Monitoring System'. This involves a walking inspection of the specified area. The programme means that all the apron areas are inspected to a L2 standard over a 32-day period. This inspection includes surface condition, paint markings, works-in-progress, birds/bird attractants, and airside discipline.
- (c) Emergency stand telephones are checked in line with the three trier inspection programme, and any faults reported directly to HAL IT services.
- (d) Stand lighting is inspected as part of the evening L1 inspection, and any faults reported via the Engineering Help Centre. Stand lighting is also inspected annually by HAL Engineering – this inspection includes a lighting assessment using calibrated light meters.
- (e) In addition, all colleagues working on the apron area are expected to report any hazard which may impact upon airside safety. If necessary, Airfield Operations will send a member of colleagues to assess the situation and make the area safe in the first instance.

3.1.8 Runway friction measurement is carried out as follows;

- (a) HAL follows CAP 683 guidance "The Assessment of Runway Surface Friction for Maintenance Purposes"
- (b) HAL carries out full assessment measurements of runway friction in order to monitor the condition of the runway surface on a minimum 5 month cycle, endeavouring to achieve this more regular dependant on weather conditions.
- (c) HAL uses the Airport Surface Friction Tester (ASFT) for measuring surface friction. HAL also has a second ASFT as a backup. Both machines are maintained in Airfield Operations to ensure that a machine is available for immediate use.
- (d) Any materially significant areas of the runway surface which record below Minimum Friction Level values are reported to flight crews by the AfDM via NOTAM as 'slippery when wet'.
- (e) Details of the operation of the ASFT can be found in the Airside_ASD-O_ALOP_028
- (f) A record of friction measurements is held in online platform. The results from friction measurements are used to target rubber removal efforts.

3.2 Arrangements and means of communicating with air traffic services during inspections

3.2.1 All the vehicles of the Airfield Operations team carrying out inspections have VHF radios fitted, which enable immediate communication with ATC.

3.2.2 Inspections taking place on taxiways and aprons are carried out on a 'give way' basis; as such inspection vehicles are expected to maintain situational awareness using the radio and to yield to aircraft. Runway inspections on live runways are carried out under positive control from ATC.

3.2.3 The Airfield Operations team are empowered to suspend operations where safety is at risk and are able to do this immediately using the VHF radio link to ATC.

3.3 Inspection checklists, logbook and record-keeping

3.3.1 Completion of routine surface and lighting inspections on the movement area are recorded in the Airfield Operations Daily Inspection Log.

3.3.2 Surface faults and AGL faults found during inspections are electronically logged using a tablet-based software programme (ALFERD), which creates maintenance requests via the Engineering maintenance database (Maximo) – these requests are directed to the appropriate team for resolution. Inspectors are able to track progress of faults using the tablet and escalate if the issue requires it.



E.4 Procedures for the inspection routine and emergency maintenance of visual and non-visual aids, as appropriate, and the aerodrome electrical systems including:

4.1 Inspection checklists, logbook and record-keeping

4.1.1 The AGL and airfield electrical systems are maintained by HAL Airside Systems, with additional support by ATG (supplier of the AGL Control System), and a variety of other sub-contractors. Airfield Operations carry out inspections of the AGL systems, as detailed in section E.3

4.1.2 HAL Airside Systems maintain records of the activities carried out as part of the maintenance regime. Fault repairs and mandatory maintenance inspections completed are recorded using the 'Maximo' tool. Records stored in Maximo allow historical data on failure rates and maintenance regimes to be analysed and incorporated into revised maintenance programmes to prevent future failure.

4.2 Inspection intervals and times; reporting results and follow up actions

4.2.1 For details of inspection regimes for visual aids, see section E.3

4.3 Operating, maintenance and repair instructions, servicing information, troubleshooting and inspection procedures of aerodrome equipment

4.3.1 Airside Systems technicians receive sufficient training and achieve relevant qualifications such that they are able to carry out preventative maintenance and repair on airfield electrical installations.

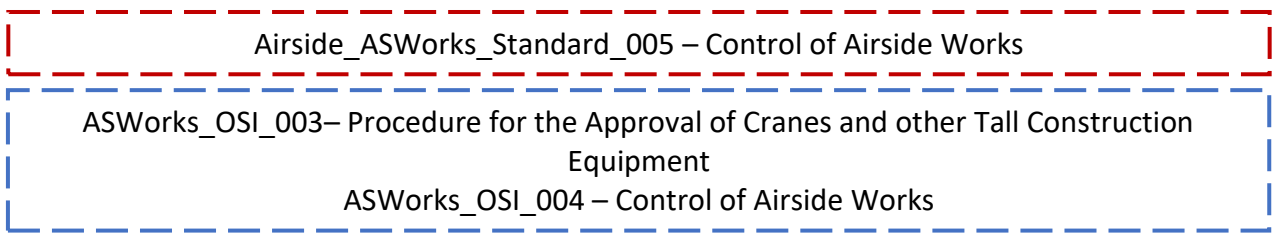
4.3.2 In addition, method statements are provided via the 'Maximo' asset management system to aid technicians carrying out their allocated tasks.

4.4 Procedures for maintenance of the movement area, including paved areas; unpaved runways and taxiways; runways and runway strips and aerodrome drainage

4.4.1 For further information on maintenance of pavement areas, see section E.3



E.5 Procedures for aerodrome works including...



5.1 Co-ordinating, planning and carrying out construction and maintenance work

5.1.1 Any request for work that is carried out on the airfield is submitted through the Aerodrome Compliance Team. In consultation with appropriate companies and/or Heathrow Airport Limited departments, the work is planned and scheduled. This plan/schedule is then agreed and communicated to the relevant departments/Companies.

5.1.2 In appropriate cases (such as large or complex construction projects), supporting documentation will also be produced by the department to provide additional guidance to all parties involved (including ATC, contractors, airlines etc.). These documents are known as Airside Works Instructions (AWI) and are written by the Aerodrome Compliance Team, and these are supplemented with Operational Advice Notices (OANs), NOTAMs and AIP Supplement when appropriate.

5.1.3 Approved works will be issued a works permit by Airside Works Approval, via an online computer system. The works permit sets out the particulars of the work to be conducted, and any safety conditions to be adhered to whilst the work is completed.

5.1.4 On the day/night of the works, the contractor must have the works permit authorised (checked) and activated by the Airfield Operations team prior to set up/start of work. This may be via a phone call or a meeting, as required by the Airfield Local Operating Procedure (ALOP).

5.1.5 The set up and inspection of works areas forms part of the inspection process carried out by Airfield Operations.

5.1.6 Upon completion of the work, the works permit is deactivated.

5.2 Arrangements and means of communicating with air traffic services during the progress of such work

5.2.1 Prior to commencement of works on the manoeuvring area, the AfDM will produce a map showing the areas of the airfield which will be closed for work during the course of the night. This map is then shared with ATC, key airline partners and various other internal HAL departments.

5.2.2 The closure of parts of the manoeuvring area for works is supervised by the Airfield Operations. ATC are advised, over the VHF air-band system, of the closure of each area, prior to suitably safeguarding the area. The reverse occurs at hand back.

5.2.3 During the night, the Airfield Operations department is in regular communication with ATC as works areas close and open. Any issues encountered during works which may affect the serviceability of a particular area will be discussed with ATC by the AfDM.



E.6 Procedures for apron management including...

6.1 Transfer of the aircraft between air traffic services and the apron management unit

6.1.1 Not applicable at Heathrow.

6.2 Allocation of aircraft parking positions

ASGrOps_OSI_047 – Allocation of Aircraft Parking Stands
ASGrOps_OSI_030 – Aircraft Aprons/Stand – Types & Markings
ASGrOps_OSI_034 – Operation of Royal Suite Apron Stands 457, 457L, 457R & stand 458
ASGrOps_OSI_033 – Stands 601-609

6.2.1 Stand allocation at Heathrow is carried out by the Aircraft Operations Unit (AOU) who work initially from a flight schedule provided by Airport Coordination Limited (ACL). The schedule is updated continually, either by electronic interface directly from ACL, the airlines and National Air Traffic Service (NATS), or by AOU operators. Updating relates to aircraft registrations, arrival and departure times.

6.2.2 Stands are allocated by AOU some hours in advance of the aircraft's arrival. The allocations are transmitted by the Terminal Management System (TMS) to the Integrated Database for Airport Handling Operations (IDAHO) and from there to Air Traffic Control, the airlines, handling agents, fuel companies and control authorities. The IDAHO system also supplies ETA's and landing times to terminal Flight Information Display Systems (FIDS), the Internet and HAL Finance for aircraft charging purposes.

6.2.3 The overriding authority for stand allocation at Heathrow rests with AOU. However, due to the extensive use of Terminals 5 by British Airways, they assume the day to day responsibility for stand allocation in this terminal. Allocations made by British Airways are passed to AOU via IDAHO into TMS. AOU then validate this information before sending it out for publication. HAL reserves the right to override British Airways allocation if deemed necessary.

6.2.4 A database of stand sizes and aircraft dimensions is held within IDAHO and TMS. All stand allocations are validated against this database to ensure stand to aircraft compatibility.

6.2.5 All information concerning the movement of arriving and departing aircraft are recorded in the IDAHO database. This database is also used for recording towing movements and stand occupancy times. The IDAHO database is used to calculate landing fees and parking charges.

6.3 Engine start and aircraft push back

ASGrOps_OSI_092 - Aircraft Arrival, Turnaround and Departure Procedures on Stands
ASEnv_OSI_061 – Ground Noise at Heathrow - Approval Control Process and Safety of Engine Ground Running
ASGrOps_OSI_026 – Aircraft Towing Operations
ASGrOps_OSI_072 – Airfield Pushback Restrictions
ASEnv_OSI_078 Use of Aircraft Auxiliary Power Units

6.3.1 Accountability for the control of ground noise at Heathrow rests with HAL. There are a number of local procedures in place to limit unnecessary engine ground running.

6.3.2 As a rule, engines are not started on stand. APU's may be run on stand for a minimal amount of time, and only immediately after arrival or just prior to departure.

6.3.3 Engine start on stand prior to push back may be approved by ATC, subject to HAL's



approval.

6.4 Marshalling and follow-me service

6.4.1 The vast majority of stands at Heathrow are fitted with advanced Stand Entry Guidance Systems (SEGS). However, in the event that the SEGS are not available or not installed, Heathrow provides a marshalling service.

6.4.2 Marshalling is carried out by the colleagues of the Airfield Operations Department. Colleagues learn to marshal aircraft during initial training and receive annual competency checks.

6.4.3 Heathrow also provides a 'follow-me' leader service upon request of flight crews or ATC. This is also carried out by the colleagues of the Airfield Operations, using vehicles equipped for the duty.

E.7 Procedures for apron safety management including...

7.1 Protection from jet blast

ASEnv_OSI_061 – Ground Noise at Heathrow - Approval Control Process and Safety of Engine Ground Running
ASGrOps_OSI_092 – Aircraft Arrival, Turnaround and Departure Procedures on Stand

7.1.1 Pilots operating at Heathrow are requested, via the UK AIP, section EGLL AD 2.20, to ensure they use minimum power necessary to avoid jet blast on adjacent stands.

7.1.2 ATC have various procedures, detailed within MATS Part II for reducing jet blast risks during push back, including specifying the number of intervening stands between concurrent push backs, and specifying the direction of push from particular stands to avoid jet blast risk on adjacent stands.

7.1.3 Engine ground running is limited to low power or check start only on stand, and only with the approval of Heathrow. Stands with particular hazards related to jet blasts have specific operational conditions applied. During routine patrols, Airfield Operations will monitor engine running and address any hazards observed.

7.1.4 All high power engine runs are expected to be carried out within dedicated engine run facilities. Any change to this requirement is managed closely by Airfield Operations and takes place in remote areas of the manoeuvring area in order to reduce the hazard to personnel, vehicles and other aircraft.

7.2 Enforcement of safety precautions during aircraft refuelling operations

ASGrOps_OSI_019 – Fuelling of Aircraft

7.3 Apron cleaning/sweeping

Airside_ASInsp_Standard_008 – Airfield Inspections



- 7.3.1** The sweeping and cleaning of the airfield is carried out as part of the duties of the Airfield Operations. These duties include cleaning, sweeping, FOD management and emptying of the various bins on stand.
 - 7.3.2** Airfield Operations has a variety of sweepers, combination sweepers, dustcarts and gully-suckers/bowsers. A combination of these vehicles is deployed daily to ensure that good coverage of the airfield is achieved, and that debris or spillages are able to be dealt with promptly.
 - 7.3.3** Contractors working on the airfield carrying out maintenance will usually be required to provide their own sweepers to ensure that working areas are clean prior to return to operational use. Inspections of work sites carried out by Airfield Operations ensure that this is the case.
 - 7.3.4** A stand cleaning programme ensures that every stand at Heathrow is cleaned using a detergent. These cleans take approximately 30 minutes to complete each stand and are carried out at opportune times during the operating day, when stands are vacant.
 - 7.3.5** HAL have positioned at the head of every stand FOD and POL bins, to which airline and handling agent colleagues can dispose of any FOD found on the airfield. These bins are emptied and cleaned by Airside Operations on a regular basis.
 - 7.3.6** HAL have installed a number of compactors in various apron areas, to which airline and handling agent colleagues can take bulk rubbish. The compactors are emptied, cleaned and maintained on a regular basis by a contractor.
 - 7.3.7** In addition, all operating companies and personnel on the apron are expected to take responsibility for FOD management and removing hazards to aircraft and other colleagues.
- 7.4** Monitoring compliance of personnel on the apron with safety procedures

Airside_ASInsp_Standard_008 – Airfield Inspections
Airside_ASDRVE_Standard_010 – Airside Vehicle Safety Requirements
Airside_ASGrOps_Standard_012 – Third Party Auditing
Airside_ASDRVE_Standard_010 – Penalty Points
Airside_ASDRVE_Standard_010 – Airside Driver Permit Scheme
Airside_ASGrOps_Standard_012 – Turnaround Checks



ASDRVE_OSI_017 – Pedestrian Walkways & Crossing Airside
 ASGrOps_OSI_092 Aircraft Arrival, Turnaround and Departure Procedures on Stand
 ASGrOps_OSI_024 – Aircraft Maintenance on Stand
 ASDRVE_OSI_011 – Airbridges; Operators' Permit, Operation & Use
 ASDRVE_OSI_018 – Aircraft Fixed Electrical Ground Power-Operating Procedures and Condition of Use
 ASGrOps_OSI_042 – Use of Personal Protective Equipment Airside
 ASDRVE_OSI_087 – Management of Airside Infraction
 ASGrOps_OSI_045 – Handling of Electric Mobility Aids
 ASGrOps_OSI_043 – Prohibition of Smoking in Airside Areas
 ASDRVE_OSI_012 – Unit Load Device (ULD) Management
 ASGrOps_OSI_07 – Airside Incident and Accident Reporting
 ASGrOps_OSI_041 – Minimum Induction Training for Staff Operating on Airside Roads & Ramp Areas
 ASDRVE_OSI_009 – Escorting of Vehicles Airside
 ASGrOps_OSI_026 – Aircraft Towing Operations
 ASGrOps_OSI_072 – Airfield Pushback Restrictions
 ASGrOps_OSI_029 Access to Bealine Base for Aircraft Under Tow
 ASGrOps_OSI_073 – Use of Remotely Operated Pushback Vehicles

7.4.1 Airfield Operations carry out regular routine patrols of the apron area. One of the areas of focus for the colleagues carrying out the inspection is the behaviour of personnel operating on the apron.

7.4.2 Should it be required, Airfield Operations will carry out positive interventions where possible. Infringement notices may also be issued for more serious safety infractions, or for driving offences. These notices (known as Airside Occurrence Ticket – AOTs) are passed on for follow up by the Airside Compliance Officers.

7.4.3 In addition, the Airfield Operations team carry out a prescribed number of audits of the aircraft turnaround process each day. These audits focus upon the key elements of the process, covering from the time before the aircraft arrives on stand to post the aircraft's departure. Immediate safety hazards are addressed 'in the moment' – otherwise audit reports are completed.

7.4.4 Output from turnaround audits is passed to the Ground Handling Coordinator who in turn creates performance dashboards for review and action planning with the ground handling community.

E.8 Procedures for movement area management including...

8.1 The procedures related to the control of vehicles that operate on or in the vicinity of, movement area, including traffic rules, speed limits, driver training and driving permits as well as the methodology for enforcing these rules are located in the following Standards and OSI's;

Airside_ASDRVE_Standard_010 – Airside Vehicle Safety Requirements
 Airside_ASDRVE_Standard_010 – Penalty Points
 Airside_ASDRVE_Standard_010 – Airside Driver Permit Scheme



ASDRVE_OSI_008 – Vehicles and Equipment Airside – Requirements
 ASDRVE_OSI_005 – Vehicles and Equipment Airside – Operations
 ASDRVE_OSI_006 – Airside Driver Training and the Airside Driver Permit
 ASDRVE_OSI_087 – Management of Airside Infraction
 ASDRVE_OSI_010 – ATC Radio Frequencies and Control of Vehicles on the Manoeuvring Area
 ASDRVE_OSI_074 – ATC Recognised Callsigns for Vehicles
 AsGrOps_OSI_073 – Use of Remotely Operated Pushback Vehicles
 ASDRVE_OSI_015 Control Post 16 Operating Protocol

8.2 Procedures for wildlife hazard management including assessing wildlife hazards and arrangements for implementation of the wildlife control programme and promulgation of the relevant information to the AIS; wildlife strike form

Airside_ASWHM_Standard_007 – Airfield Bird Control
 Airside_ASWHM_Standard_007 – Bird Hazard Management
 Airside_ASWHM_Standard_007 – Use of Firearms

ASWHM_OSI_077 – Wildlife Hazards and the Reporting



8.3 Policy

8.3.1 HAL operates to the guidelines laid down in CAP772 'Wildlife Hazard Management at Aerodromes'.

8.3.2 The Heathrow Wildlife Control Management Plan document is held by the Head of Airside Operations.

8.3.3 A policy of habitat management and active bird control is used to produce an airfield environment that is unattractive to birds. In addition, there are regular visits to local sites that attract birds, and consultation with site owners to encourage an awareness of the bird hazard to aircraft.

8.4 Assessment of wildlife hazards

8.4.1 A Wildlife Hazard Steering Group meets on a regular basis to review policy and active bird control measures.

8.4.2 A risk identification approach is taken to assessing wildlife hazards, as outlined in CAP 772. This approach takes the occurrence of a strike over the prior 5 years against its likely severity, to give an overall risk rating, against which wildlife hazard management plans are created.

8.5 Procedures

8.5.1 On airport habitat management includes the use of long grass on the airfield, control of vegetation and insects, management of food waste outlets and the wiring or netting of water areas.

8.5.2 Active bird control is carried out by the colleagues of the Airfield Operations team who maintain a continuous bird patrol within the airfield boundary. Electronically produced bird distress calls, pyrotechnics fired from pistols and live rounds from shotguns are used to scare birds from the airfield. In addition, lethal control is exercised where other methods have failed to adequately address the risk. The bird patrol is carried out in appropriately equipped vehicles giving access to all areas of the airfield.

8.5.3 Information from the continuous bird patrols is recorded on a database, which produces statistical information for trend analysis.

8.5.4 A Section 5 Firearms Authority is held by the Head of Airside Operations. Airside Operations hold a dealers certificate enabling Airfield Operations department to operate on that licence.

8.5.5 When the presence of a large number of birds is thought to constitute a hazard to aircraft, Airfield Operations will liaise with ATC who then advise aircrew. A message will also be broadcast on the ATIS and a NOTAM issued if appropriate.

8.5.6 In situations where a wildlife hazards presents a clear and immediate risk to aircraft, colleagues of the Airfield Operations are empowered to suspend operations on a runway or area of taxiway whilst the hazard is dealt with.

8.5.7 All bird carcasses found on the Manoeuvring Area are treated as bird strikes. Any reported bird strike within the airfield perimeter is investigated by Airfield Operations. Bird strikes within the perimeter are reported by Airfield Operations to the CAA on the appropriate form. Any bird remains (or detailed photographs) are sent to Birdstrike Management Ltd for formal identification.

8.6 Training

8.6.1 Airfield Operations personnel receive instruction on bird control and firearms during their initial training. Specified colleagues attended a CAA recognised bird control course, and a course qualified person is on duty at all times. Periodic refresher training is undertaken.



8.7 Procedures for obstacle control and monitoring within and outside of the aerodrome boundaries and notification to the Competent Authority, of the nature and location of obstacles and any subsequent addition, or removal, of obstacles for action as necessary, including amendment of the AIS publication and responsibility for obstacle lighting on and off the airfield.

Airside_ASSG_Standard_015 – Aerodrome Safeguarding

ASWorks_OSI_003 – Procedure for the Approval of Cranes and other Tall Construction Equipment

ASSG_OSI_050 – Drones at Heathrow

8.7.1 For obstacle control, monitoring, and amendment of the AIS, see section **E.1**

8.7.2 The Heathrow Aerodrome Compliance team is responsible for safeguarding off-airport and liaison with local authorities. Local Planning Authorities (LPA) send all safeguarding consultations direct to the Aerodrome Compliance Team who assesses all planning applications in relation to the various safeguarding criteria. They will reply to the LPA stating either 'No objection', 'No objection subject to Condition(s) (as specified)' or 'Objection' for which reason(s) are given. Further details of the processes can be found in the Aerodrome Safeguarding Manual which is available in the Aerodrome Safeguarding SharePoint.

8.7.3 Aerodrome Compliance Team is responsible for obtaining prior approval from the CAA for all applicable 'on-airport' developments. An initial Safeguarding Assessment will be carried out by a member of the Aerodrome Compliance Team. The assessment will ensure that the safety of the aerodrome is not compromised. Where appropriate, every opportunity will be made to eliminate non-standard items and enhance the safety of the airside operation. Following this assessment, all proposed changes will be forwarded to the CAA for approval.

8.7.4 Safeguarding relating to crane operations is managed by the Aerodrome Compliance Team who are responsible for approving the operation of cranes and tall construction equipment on and around the airport.



E.9 Aerodrome emergency plan, including:

Airside_ASEO_Standard_013 – Emergency Planning

ASEO_OSI_076 – Emergency Orders

9.1 Dealing with emergencies at the aerodrome or in its surroundings

9.1.1 In line with the mandatory requirement, Heathrow Airport publishes and acts upon an Emergency Orders document which sets out the arrangements for dealing with aircraft emergencies at or within the vicinity of Heathrow Airport.

9.1.2 It also provides management, colleagues and contractual service providers with a comprehensive guide to the procedures, with the aim of delivering an effective and efficient emergency response.

9.1.3 The Emergency Orders are amended on a periodic basis subject to significant change in process, procedural impacts or when practices would invalidate the existing plans.

9.1.4 Responsibility for the publication and issue of the Emergency Orders rests with the Senior Operational Resilience Manager and the Head of AFRS & Airport Control.

9.2 Tests for aerodrome facilities and equipment to be used in emergencies, including their frequency

9.2.1 All Airfield Operations and AFRS vehicles and equipment are inspected daily prior to use. Any defects noted are recorded and passed to the Heathrow vehicle maintenance supplier for rectification.

9.2.2 All specialist emergency equipment, such as the Emergency Medical Unit, are tested periodically and any issues addressed.

9.3 Exercises to test emergency plans, including their frequency

9.3.1 Heathrow has adopted the UK Alternative Means of Compliance (AltMoC) AMC1 ADR.OPS.B.005(c) Aerodrome emergency planning when scheduling exercises to test emergency plans.

9.3.2 Heathrow carries out a series of modular tests in order to fully exercise emergency response plans at periodic intervals.

9.3.3 Actual emergency events or activations of the emergency orders may be used to evidence that some modules have been effectively tested. Reviews will be carried out to ensure that any deficiencies may be identified and corrected.

9.3.4 Heathrow will hold a full scale aerodrome emergency exercise at intervals not exceeding four years.



E.10 Rescue and Fire Fighting including:

10.1 RFFS Policy

10.1.1 Heathrow Airport Limited (HAL) provides and maintains an Airport Fire & Rescue Service, capable of making an effective response and intervention to incidents that occur within the aerodrome operational area. The operational area is defined as the area containing any point on the airfield and 1000 metres beyond the threshold of each runway, as illustrated in the Airport Emergency Orders; AFRS Response Area & Pre-determined Attendance Area.

10.2 Fire Stations

10.2.1 In order to meet the response times specified in AMC5 ADR.OPS.B010(a)(2) Rescue and Firefighting Services – Response Time, two fire stations are provided. These are positioned at strategic locations relative to the runways;

(a) Fire HQ, located centrally to the airfield, to the West of taxiway Echo.

(b) Fire East, located in the North-East corner of the airfield, adjacent to holding point M1

10.3 Roles and accountabilities

10.3.1 The **Head of AFRS & Airport Control**, reporting to the Director of Operations, is responsible for the overall operational efficiency of the AFRS. The safety accountabilities of this role are as follows;

(a) Manage colleagues and resources to ensure compliance with, and maintenance of, airside safety standards and recommended practices in accordance with the Aerodrome Certificate, CAA Regulation and Civil Aviation Publication (CAP) guidance documents.

(b) Ensure mandatory training is carried out in accordance with HAL standards and guidance document CAP 699 'Standards for the Competence of AFRS personnel employed at United Kingdom licensed aerodromes.

(c) Prepare, submit and manage Airport Fire & Rescue Service business plans, ensuring sufficient resources are available.

(d) Ensure that safety is given the highest priority at all times in meeting the operational standards for personnel and equipment.

(e) Launch immediate inquiries following any breach of Health and Safety.

(f) Continuously review procedures for handling aircraft incidents and ensure that current known "best practice" is incorporated.

(g) Ensure controls are in place to minimise environmental risk associated with RFFS activities.

(h) Refer to AFRS Volume 1 Administration, Chapter 2 – section 2.2.1, for further information.

10.3.2 The **Deputy Chief Fire Officer** reports to the Head of AFRS & Airport Control and is responsible for the operational efficiency and day to day running of the Airport Fire & Rescue Service. At an incident the Deputy Chief Fire Officer (DCFO) may be required to attend either the incident site and manage internal/external bodies which may include the AAIB, ATC, Airline representatives, duty or senior management team and any other agencies. Refer to AFRS Volume 1 Administration, Chapter 2 – section 2.2.2, for further information.

10.3.3 The **Station Manager – Service Delivery** reports to the Deputy Chief Fire Officer and will assist the Senior Leadership Team in the day to day running of the AFRS including assisting to develop and maintain policy and processes that ensures the AFRS meet regulatory requirements and the business needs of Heathrow Airport. Lead and oversee on Fire Service projects as required, deputise for AFRS SLT and/or represent AFRS in stakeholder meetings as required. Refer to AFRS Volume 1 Administration, Chapter 2 – section 2.2.4.1, for further information.

10.3.4 The **Assistant Chief Fire Officer** is responsible for training, development, recruitment and people within the Airport Fire and Rescue Service. The ACFO is also the emergency planning manager.

10.3.5 The **Station Manager** reports directly to the and are accountable for the day to day operation of the Duty Watch and compliance with processes and systems adopted by LHR,



taking charge/control of a major airfield incident, developing and planning of local fire service policy, procedures and working practices and implementing group policy and procedures in order to maintain day to day compliance in the fire service

10.3.6 The **Watch Manager** reports to the Station Manager and is responsible for assisting in the operational efficiency and day to day running of the Duty Watch. Refer to AFRS Volume 1 Administration, Chapter 2 – section 2.2.5, for further information.

10.3.7 The **Crew Commander** report to the Watch Manager and are responsible for assisting in the operational efficiency and assisting in the day to day running of the Duty Watch. Refer to AFRS Volume 1 Administration, Chapter 2 – section 2.2.7, for further information.

10.3.8 **Firefighters** report to the Watch Manager and carry out the day to day activities in order to maintain a fully compliant AFRS in order to save life, protect property in line with company standards and licencing requirements. Working daily to maintain competence within guidance document CAP 699. Refer to AFRS Volume 1 Administration, Chapter 2 – section 2.2.8, for further information.

10.4 Selection of Personnel

10.4.1 HAL is an equal opportunities employer. Medical Standards adopted by HAL are in accordance with the Heathrow Airport Ltd AFRS recruit medical and physical policy. Refer to AFRS Volume 1 Administration, Chapter 2 – Section 2.30 AFRS Firefighter Medical Standards and AFRS Operational Manuals Reference Documents – Medical and Fitness; Heathrow Airport AFRS Fitness Policy.

10.4.2 Potential recruits must progress through the Heathrow Airport Fire & Rescue recruitment process. Refer to AFRS Volume 1 Administration, Chapter 2 – Section 2.22 Recruitment Selection System for AFRS Personnel.

10.4.3 HAL Policy is that all AFRS colleagues will be medically assessed on a regular basis. Medical assessments are carried out by the Occupational Health Department Physician at Heathrow Airport. The assessments are carried out at 3 yearly intervals, regardless of age.

10.5 Training

10.5.1 Heathrow AFRS provide training in accordance with HAL standards and CAA guidance document CAP 699.

10.5.2 Firefighters expected to drive appliances or other operational vehicles hold the appropriate driving licence. Revalidation of the license will be carried out to standards and conditions set by the Driving Standards Agency (DSA).

10.5.3 Refer to AFRS Volume 1 Administration, Chapter 4 – section 4.1, for further information.

10.6 Staffing

10.6.1 Heathrow provides sufficient RFFS cover for Category 10 responses.

10.6.2 In order to achieve this, the resource allocation is assessed through a 'Task and Resource Analysis' (TRA) and is signed off by the Aerodrome Accountable Manager.

10.6.3 Minimum AFRS resource coverage to achieve this is as follows;

- (a) 1 x Station Manager or
- (b) 1 x Watch Manager
- (c) 1 x Crew Commander
- (d) 12 x Firefighter (desirable to include 2 Crew Commanders)

10.6.4 Station resource allocation is as follows;

- (a) 1 x Station Manager, responsible for both fire stations
- (b) **Fire HQ;** 1 x Station or Watch Manager; 7 x Firefighter (desirable to include 1 x Crew Commander) Total Aviation crew of 8
- (c) **Fire East;** 1 x Crew Commander; 5 x Firefighter (desirable to include 1 x Crew Commander) Total Aviation crew of 6



This provides a Category 10 response from both stations, which can be supplemented by a crew of 4 on the 'Domestic' pump (if available), which includes a Crew Commander – should it be required.

10.6.5 Refer to AFRS Volume 1 Administration, Chapter 16 – section 16.1, for further information.

10.7 Appliances, Extinguishing Media & Medical Equipment

10.7.1 The extinguishing media, rescue equipment and personnel provided in line with the agreed TRA for the appropriate category. The appliances utilised will be Major Foam Tender Pumps (MFTP), Command Vehicle and Domestic Pump. The Rescue Stairs and Hose Layer will, if required, be deployed at the discretion of the Station Manager utilizing available personnel.

10.7.2 The quantities of water, foam and complementary agents appropriate to AFRS Category 10 are available for immediate discharge and exceed the requirements of AMC4 ADR.OPS.B.010(a)(2). Rescue and firefighting services

10.7.3 At all times the AFRS will provide the number of vehicles and quantities of media described in AFRS Volume 1 Administration, Chapter 12 – section 12.1.

10.7.4 The main complementary media is Monnex, which is regarded as a high performance dry powder. Refer to AFRS Volume 1 Administration, Chapter 12 – section 12.1.1, for further information.

10.7.5 All appliances and equipment are tested in accordance with the manufacturers' instructions. Appliance defects are reported to the HAL vehicle maintenance provider and categorised according to priority and seriousness of the defect. The Watch Manager is responsible for follow up action including contacting the HAL vehicle maintenance department if the defect requires immediate action.

10.7.6 Equipment and vehicle tests & inspections records are maintained and held on the AFRS EMS, a computer data recording system.

10.7.7 Appliance servicing and defect records are held by the HAL vehicle maintenance provider.

10.7.8 Heathrow's AFRS carries a variety of medical equipment. Inventories are detailed in the AFRS document 'Needs Analysis – Provision of Emergency Medical Equipment' and are reviewed annually.

10.7.9 The Emergency Medical Vehicle and the Emergency Medical Trailer are stationed at the Airside Operations Facility (AOF) and are deployed to any incident via a request to Airfield Operations.

10.7.10 Airfield Operations is responsible for ensuring regular maintenance of the trailers with the AFRS being responsible for the medical equipment stored within.

10.7.11 Refer to AFRS Volume 1 Administration, Chapter 14, for further information on medical equipment.

10.8 Alerting Procedures and Response Objectives

10.8.1 Monitoring of the movement areas and initiation of emergency response is a function carried out by Air Traffic Control.

10.8.2 The AFRS will always aim to achieve the Response Objective in accordance with AMC5 ADR.OPS.B.010(a)(2). Rescue and Firefighting Services – Response Time

10.8.3 The training programme for AFRS personnel and familiarisation of the airfield encompasses AFRS standby positions, runway holds and designated runway crossing points. Response exercises are undertaken to keep AFRS personnel familiar with best routes to any point on the aerodrome in an ever-changing environment. Refer to AFRS Volume 3



Operational Procedures, Chapter 16 – section 16.1, for further Information.

10.9 Communications

10.9.1 UHF fixed and portable radios and fixed VHF radios are provided to allow two-way communication with internal teams, flight crews, and ATC. Refer to AFRS Volume 1 Administration, Chapter 10 – section 10.1, for further information.

10.9.2 In addition, Station Managers carry ‘Airwaves’ radios, enabling swift communication with the Met Police duty officers, HAL AfDM, HAL AOM and HAL Security Manager during an incident.

10.10 Unforeseen Circumstances which may Affect Promulgated Level of AFS Fire Category

ASEO_OSI_068 – Operations at Heathrow Airport with Depleted Rescue and Fire Fighting Service

10.10.1 In the event of a change in fire category from that published in the UK AIP, the AfDM is responsible for promulgating the change to ATC and to flight crews via NOTAM.

10.10.2 In the event of either Fire Station being unavailable or loss of services essential to ‘normal’ operation of the Airport Fire & Rescue Service, Contingency Plans are in place. The Contingency Plans are held in the Station Managers office at Fire HQ

10.10.3 Refer to AFRS Volume 1 Administration, Chapter 16 – section 16.2, for further information.

E.11 Removal plan for disabled aircraft, including:

Airside_ASEO_Standard_013 – Removal of Disabled Aircraft

ASEO_OSI_069 – Aircraft Recovery Plan

11.1 Relevant arrangements, equipment, and procedures for its implementation

11.1.1 The policy and management for the removal of disabled aircraft is outlined in Operational Safety Instruction ‘Aircraft Recovery Plan’ and satisfies the requirement for a plan for the removal of disabled aircraft. This OSI cover the expeditious removal of an aircraft from an operational runway or taxiway area, including the provision of appropriate man-power and equipment to execute the task.

11.1.2 Responsibility for the management of aircraft recovery resides with the Airline Operator, or aircraft owner, in liaison with the Airfield Duty Manager (AfDM). Only colleagues authorised by the aircraft owner are permitted to remove the aircraft.

11.1.3 HAL does not hold equipment specifically for the purpose of removal of disabled aircraft. However, with the agreement of the Airline Operator, HAL may be able to provide some non-specialist equipment to support in the removal of disabled aircraft. Airlines are mandated to have a recovery plan as part of the operating licence at Heathrow Airport, the BA / IATA pool for removal of disabled aircraft is located at the aerodrome.

E.12 Procedures for ensuring the safe handling and storage of fuel and dangerous goods in the aerodrome, including:

ASGrOps_OSI_019 – Fuelling of Aircraft



12.1 Equipment, storage areas, delivery, dispensing, handling and safety measures

12.1.1 Heathrow Airport Limited (HAL) itself does not supply or store aviation fuel or provide fuelling facilities at Heathrow. It does, however, have lease agreements with the major fuel companies and suppliers. The lease agreements specify the conditions under which aviation fuel may be supplied at Heathrow. In particular, they cover construction of storage tanks, pipelines and hydrants, road tanker operation insurance, emergency procedures and fire precautions. The agreements also stipulate that the fuel companies must observe all general or local acts of parliament which may be applicable and specifically the Petroleum (Consolidation) Act 1928 (with associated documents) and the Pipelines Act 1962

12.1.2 The only grade of fuel available at Heathrow is Jet A-1.

12.1.3 Aviation fuel is delivered to Heathrow by the oil companies using dedicated underground pipelines and a limited road tanker offload facility. Fuel is stored in two tank farms areas - one at Perry Oaks (in the centre of the airfield, between Delta and Echo taxiways), and the second in the Cargo Area.

12.1.4 Both fuel facilities are owned by a joint venture company of oil companies, known as Heathrow Airport Fuel Company (HAFCO). It comprises BP International Ltd, Valero Energy Ltd (formerly called Chevron Ltd), ESSO Petroleum Company Ltd, Kuwait Petroleum International Aviation Company (UK) Ltd (trading as Q8), Shell UK Ltd, Total UK Ltd and Vitol Aviation BVBP, ExxonMobil, Shell, ChevronTexaco, Total and Q8 (24hr Tel; 020-8754 8762).

12.1.5 The fuel hydrant system is operated by a joint venture known as Heathrow Hydrant Operating Company Limited Ltd (HHOpCo), comprising British Airways PLC (BA), BP International Ltd, Valero Energy Ltd (formerly Chevron Ltd), ESSO Petroleum Company Ltd, Kuwait Petroleum International Aviation Company (UK) Ltd (trading as Q8), Shell UK Ltd, Total UK Ltd and Vitol Aviation BV. (24hr Tel; 020-8754 8762).

12.1.6 Fuel transfer from the hydrant outlets to the aircraft is carried out by a number of fuel companies and consortiums. All companies operate under the Aviation Fuel Quality Control and Operating Procedures as per the Joint Industry Guidelines (JIG)

12.1.7 The into-plane fuelling service providers are Swissport Fuelling Services (tel: 020-8564 4903) who supply on behalf of Vitol, the Menzies operation with Shell and ExxonMobil (Esso) (tel: 020-8897-2836), Menzies dedicated BA operation (tel: 020-8759-5354) which supplies on behalf of all BA's suppliers and Aviation Fuel Services Ltd (AFS, tel: 020-8759-1363) which supplies on behalf of BP, Q8, and Total.

12.2 Quality and correct specification of aircraft fuel; audit and inspection intervals, checklists, sampling and record keeping.

12.2.1 HAL has access to the fuel industry audits, where recommendations and sign-off can be checked. The Ground Operations Licensing Team carry out annual checks on HHOpCo. Additionally, AFS, ASIG and Swissport are audited thru there GOL audit schedule.

E.13 Other operational procedures

13.1 Low visibility operations: description of operational procedures including coordination with air traffic services unit and apron management unit, standard taxiing routes, control of activities and measurement and reporting of runway visual range.

ASWeather_OSI_052 – Low Visibility Operations

Airside_ASWeather_Standard_014 – Adverse Weather - LVP

13.1.1 The two main runways at Heathrow are equipped with Marconi Standard Instrumented



Runway Visual Range units at the up wind, mid-point and downwind ends of each runway. These come into operation when the Runway Visual Range on the associated runway drops below 1,500 metres, and, at the lower end of the visibility range are capable of reading the IRVR in 25 metre steps. The units are frangible and are located 350ft (105 m) from the runway centreline. They are self-monitoring but are recalibrated by the manufacturers every nine months.

13.1.2 IRVR digital readouts are provided in Air Traffic Control, the London Air Traffic Control Centre, the Southern AIS Centre, the Meteorological Centre, British Airways 'Heathrow Airport Centre' control room and are promulgated throughout the airport by HAL ACDM.

13.1.3 Heathrow's procedures for operating in Low Visibility are detailed in the appropriate OSI – 'Low Visibility Operations'

13.2 Procedures for winter operations

Airside Snow Plan 2022/23

ASWeather_OSI_053 – Winter Hazards and the Aerodrome Snow Plan

13.2.1 Annually, Heathrow publishes its 'Snow Plan' which sets out how it will carry out snow removal and de/anti-icing activities, and how the organisation is structured to carry out the plan.

13.2.2 The Snow Plan also sets out the responsibilities of third-party airside users during a snow or winter weather event, in terms of 'self-help' and reporting the conditions of aprons for further action by the Airfield Operations.

13.2.3 Snow removal plan and procedures for its implementation, including a description of the available means and relevant arrangements

13.3 Procedures for operations in adverse weather conditions

Airside_ASWeather_Standard_014 – Adverse Weather – Anti and De-icing
Airside_ASWeather_Standard_014 – Adverse Weather – Strong Winds

ASWeather_OSI_054 – Adverse Weather

13.3.1 The activities carried out by Heathrow during, or in preparation for, adverse weather conditions, are listed in the Airside Learning Library.

13.3.2 The dedicated Met Office forecaster based in the Airport Control Centre (APOC) may issue a weather warning for Strong Winds, Gales, Thunderstorms, Ice etc.

13.3.3 Weather warnings are promulgated to the airport community using the CDM web portal. They are also promulgated via the Airport Community app. Major handling companies are also contacted by email and/or telephone.

13.3.4 Airfield Operations will increase patrols of the movement area during adverse weather. Additional inspections of runways will be carried out if necessary or at the request of ATC.

13.4 Procedures for night operations

ASEnv_OSI_038 – Administration and Enforcement of Night Aircraft Movements and Quota Limits
ASEnv_OSI_060 – Surcharges for Noise Infringements by Departing Aircraft
ASEnv_OSI_061 – Ground Noise at Heathrow – Approval Control Process and Safety of Engine Ground Running



- 13.4.1 Heathrow is equipped for operations in the day or night period.
- 13.4.2 Control of the AGL and the decision to use it rests with ATC and is governed by the procedures in MATS Part II
- 13.4.3 At night, as detailed in section E.3, inspections are carried out by Airfield Operations which focus upon lighting quality and serviceability. Any faults found are passed for rectification to Engineering.
- 13.5 Procedures for the protection of radar and other navigational aids, control of activities, and ground maintenance in the vicinity of these installations
 - 13.5.1 Instrument Landing System (ILS) installations have their critical areas protected using pegs and signage. Critical areas are also marked on the Airfield Map to aid drivers.
 - 13.5.2 The 10cm radar installation at Heathrow is located outside the critical part of the security restricted zone, to the South East of the airfield. It is physically protected from intrusion. Works on the radar are managed by NATS.
 - 13.5.3 Development applications or crane/tall equipment permit applications in the local area which are going through the safeguarding process are assessed for impact upon the 10cm radar, as well as Ground Movement Radar and other navigational aids. Assessments are carried out by NATS specialist teams and objections raised if required.
 - 13.5.4 Permits to work on the airfield in the vicinity of navigational aids are only issued following consultation with NATS.
- 13.6 Procedures for the operation of aircraft with higher code letter at the aerodrome, including taxiing routes

ASGrOps_OSI_026 – Aircraft Towing Operations

- 13.6.1 Heathrow is able to accept Code F aircraft across the majority of the airfield. These routes are detailed in the UK AIP, section AD 2-EGLL-2-3.
- 13.6.2 In the event of unusual or large aircraft requiring the use of the airfield. The AfDM will make an assessment of the most suitable taxi route.
- 13.7 Procedures and measures for the prevention of fire at the aerodrome
 - 13.7.1 All HAL colleagues receive training on the prevention of fire.
 - 13.7.2 Airfield Operations colleagues, as part of their routine inspection regime, will look for fire risks, such as sources of ignition or fuel.
 - 13.7.3 Smoking is prohibited in the airside environment at Heathrow, except in small, carefully controlled areas.
- 13.8 Procedure for calculating reduced declared distances where there are temporary objects infringing the strip or obstacle limitation surfaces
 - 13.8.1 The responsibility for calculating and promulgating reduced declared distances rests with the AfDM.
 - 13.8.2 Procedures for calculating revised declared distances are available in Airfield Operations Local Operating Procedure Airside_ASD-O_ALOP_25
- 13.9 Procedures for the safe integration of other aviation activities such as gliding, parachuting and banner towing.
 - 13.9.1 No 'other aviation activities' take place using Heathrow as a base.
 - 13.9.2 The airspace surrounding Heathrow is classified as Class D, is highly controlled (permission to enter the area for VFR flights is only granted by prior approval) and extremely busy - it is therefore unlikely that gliding, parachuting and banner towing activities will take place around Heathrow.
 - 13.9.3 ATC will manage VFR and SVFR flights through the airspace around Heathrow in



accordance with CAP493 (MATS Pt 1) and MATS Pt 2 (EGLL) procedures.

13.10 Procedure for termination of operation

13.10.1 In circumstances whereby Heathrow Airport Limited intends to terminate the operation of the aerodrome, the following will be carried out;

- (a) The competent authority will be notified as soon as possible
- (b) Pertinent information will be provided to the Aeronautical Information Service provider
- (c) Heathrow will surrender its Certificate to the competent authority on the date of termination of operations.
- (d) Heathrow will ensure that appropriate measures have been taken to prevent the unintended use of the aerodrome by aircraft.

13.11 Environmental procedures

ASEnv_OSI_055 –Pre Conditioned Air Rules and Procedures
ASEnv_OSI_056 –Pollution Prevention
ASEnv_OSI_057 –De-icing Fluid Management Reporting Procedures
ASEnv_OSI_058 –Waste Management and Disposal including Aircraft Catering Waste
ASEnv_OSI_059 –Spillage and Incident Reporting Procedures
ASEnv_OSI_062 –Disposal of Pollutants, Oils and Lubricants and other Hazardous Wastes

13.11.1 Heathrow Airport Limited (HAL) is committed to minimising the impact of its growing business on the environment and local communities through the continuous improvement of environmental performance and by acting as responsible stewards of the environment at all times.

13.11.2 Heathrow is subject to a number of environmental controls in common with other major industries. The avoidance of water, air and land contamination, which can result from inadequate storage of materials, routine operations or emergency situations, is an essential operating requirement.

13.11.3 Heathrow is also subject to aircraft Noise Abatement legislation, both on the ground and in the air.

13.11.4 The emphasis rests firmly on the avoidance and minimisation of risk, and all practical steps should be taken to prevent events by means of training, awareness of legislation, good maintenance of equipment and good working practices.

13.12 Procedure for the Notification of Communicable Diseases & Death on Board Aircraft

ASGrOps_OSI_039 – Procedure for Notification of Communicable Diseases and Death on Board Aircraft at Heathrow

13.13 Drones

Airside_ASSG_Standard_015 - Safeguarding

13.13.1 Drone operation - Heathrow operates a drone permit application process, which reviews and coordinates all drone operations in the vicinity of the aerodrome. The application process is managed by the Aerodrome Compliance Team.

13.13.2 Drone detection - Heathrow has to be vigilant for any malicious drone use on and off the airfield. Heathrow has a detection system, operated on our behalf by a contracted company, which alerts the user to any potential malicious drone. A threat assessment process is followed and APOC and the Metropolitan Police are contacted for any drones of concern.



13.14 FOD Radar – Heathrow has an operational FOD detection system that monitors the runway surface which compliments the detailed inspection requirements, and while the use of such a system is not a regulatory requirement, it contributes to exceeding the above regulatory and safety objectives.. The primary objective of the operation of such systems is to enhance the safety performance of the aerodrome through improved FOD detection, while not hindering aircraft operations at the airport.



Document Data

Document Name Aerodrome Manual	Document Reference Number Airside_SMS_Aerodrome Manual	Issue Date 20 th March 2023
Revision Date 20 th March 2023	Version No. V7.0	Effective Date 20 th March 2023
Author Name Michael Goacher	Approval Name Trevor Waldock	Technical Approval Name n/a

Document History

Revision	Description of Change	Date
v1.0	FIRST ISSUE – following EASA transition	06 th April 2016
v2.0	Update for issue	August 2016
v2.1	Issue	24 th February 2017
v2.2	Issue	15 th May 2017
v2.3	Issue	1 st November 2017
v2.4	Issue	1 st April 2018
v2.5	Issue	3 rd May 2018
v2.6	Not issued	11 th August 2018
v3.0	Issue	17 th September 2018
v3.1	Draft update	11 th February 2019
v3.2	Further updates	02 nd May 2019
v3.3	Issue	03 rd May 2019
v4.0	Issue	10 th April 2020
v5.0	Issue	25 th June 2020
V6.0	Issue	28 th October 2020
V7.0	Issue	20th March 2023

