



Operational Safety Instruction

De-icing Fluid Management Reporting Procedures

7th September 2023

ASEnv_OSI_057

Version 2.0

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

1. Introduction

- 1.1 The purpose of this Operational Safety Instruction (OSI) is to make De-icing Service Providers (DSPs) aware of their responsibilities with respect to de-icing media usage, supply, communication and storage.
- 1.2 Heathrow Airport Limited (HAL) has legal duties to monitor and regulate its operation, and the reporting of de-icer usage is a statutory requirement within Heathrow's Environmental Permits. The collection of this data facilitates a comprehensive database relating to de-icing fluid management at Heathrow Airport, including daily and monthly records.
- 1.3 In addition, this document also seeks to remind all airport companies of their responsibilities and the minimum requirements in relation to the prevention of chronic pollution incidents.
- 1.4 ASEnv_OSI_057 De-icing Fluid Management and Operating Procedures v1.0 is hereby cancelled.

2. Definitions

Abbreviation	Description
AS	Aerospace Standard
ATC	Air Traffic Control
DSP	De-icing Service Provider
GHSP	Ground Handling Service Provider
GOL	Ground Operations Licence
HADIP	Heathrow Aircraft De-icing Plan
HAL	Heathrow Airport Limited
MSDS	Material Safety Data Sheet
PCS	Pollution Control System
SAE	Society of Automotive Engineers



3. Overview

- 3.1** HAL is committed to minimising the impact of its business on the environment and local communities through the continuous improvement of environmental performance and by acting responsibly.
- 3.2** The chemicals used for all aircraft and most airfield de-icing practices are predominately glycol-based and after application to aircraft, shear off the applied surfaces into the airport surface water drainage system. They are fully biodegradable but as they degrade they remove oxygen from the water which can damage the aquatic ecosystem.
- 3.3** HAL operates a Pollution Control System (PCS) to treat and/or store surface runoff contaminated with de-icing fluid before it is discharged back into the waterways or sewers. The main part of the treatment process is the removal of de-icing fluid from water by the use of biological processes.
- 3.4** Airport companies must be aware that it is now a criminal offence to cause or knowingly permit the pollution of rivers. A list of reference documentation can be found in section 15 of this OSI.
- 3.5** DSPs are required to work to the principles agreed upon in the Heathrow Airport De-Icing Plan (HADIP). DSPs are also required to have signed the De-icing Code of Practice and should be aware of all relevant documents issued by HAL (and any subsequent amendments) relating to de-icing fluid use.
- 3.6** DSPs must provide evidence to HAL that they are compliant with SAE International Standard AS6285 (Aircraft Ground De-icing processes) and AS6286 (Training and Qualification Program for De-icing of Aircraft on the Ground).
- 3.7** The current HADIP and Heathrow Snow Plan are available from the Airside website: www.heathrow.com/company/team-heathrow/airside/useful-publications/winter-operations.

4. Operational Awareness

- 4.1** DSPs must ensure they operate in accordance with the Heathrow GOL/AOL, their operating procedures and their airline's requirements.
- 4.2** In case an emergency occurs during the de-icing process, including at either pad (JEDI / VADER), or during de-icing at the stand, the DSPs must follow the relevant OSI ASEnv_OSI_059 Spillage and Incident Reporting Procedures regarding reporting of incidents or accidents.

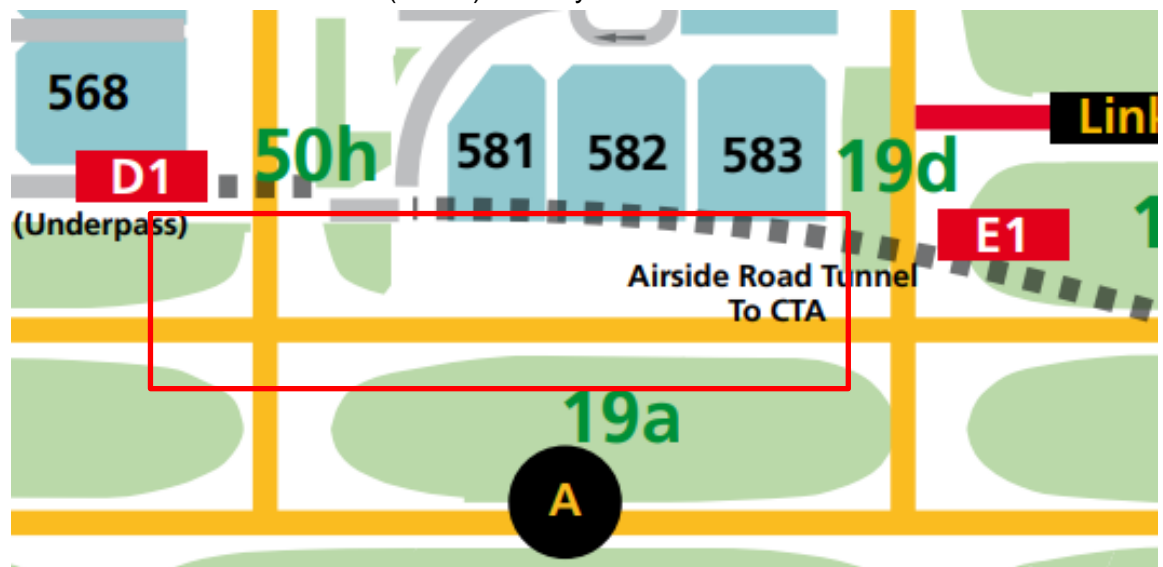


- 4.3 The person responsible for the de-icing process must be clearly designated, trained and qualified. Whenever a need for de-icing an aircraft is initiated, either by this person or the pilot-in-command, this person is responsible for the correct and complete de-icing treatment of the aircraft. The final responsibility for accepting the aircraft after de-icing rests, however, with the Pilot-in-Command.

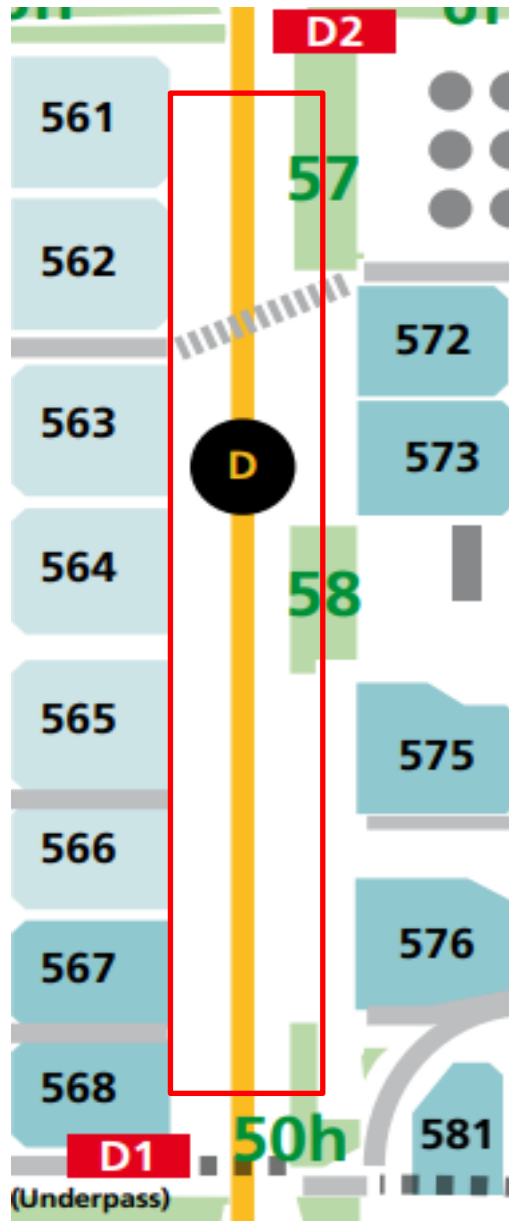
5. Remote Pad De-Icing Facilities JEDI and VADER

- 5.1 The planned use of JEDI or VADER will be promulgated through the Heathrow Operational Conference Call (HOCC) and AOP.
- 5.2 Free-ranging through JEDI or VADER **should not take place** when the pad is in use, which includes being occupied by aircraft and/or de-icing vehicles. This includes times when the de-icing vehicles are standing by in the marked 'Safety Zones'.
- 5.3 During the period that JEDI is in operation, control of the taxiways used as de-icing pads is effectively delegated to the JEDI Pad Controller (i.e. British Airways) by ATC. All aircraft movements through these areas are coordinated between ATC and the JEDI Pad Controller.

5.3.1 'JEDI South' – Bravo (South) taxiway between Delta and Echo



5.3.2 'JEDI Delta' – Taxiway Delta between reporting points D1 and D2

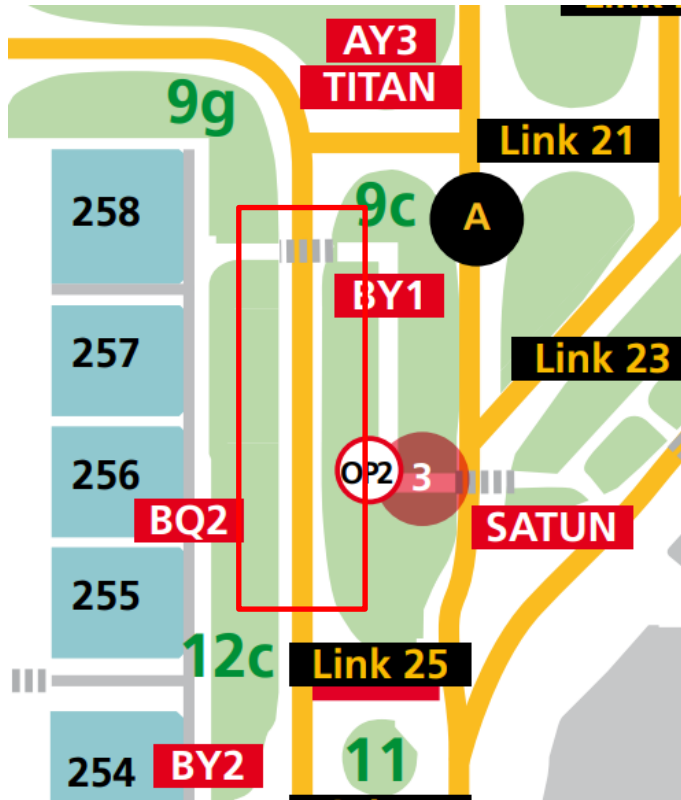


5.3.3 Appendix C of this OSI shows the locations of the JEDI.

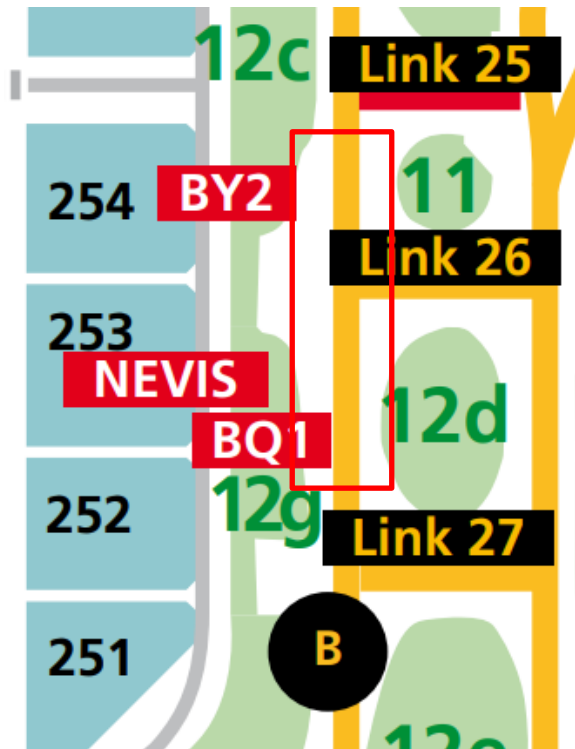


5.4 During the period that VADER is in operation, the control of the taxiways used as de-icing pads is effectively delegated from ATC to the VADER Pad Controller (i.e. ICEMAN). All aircraft movements through these areas are coordinated between ATC and ICEMAN. These are:

5.4.1 'VADER North' – Bravo (East) Taxiway between Link 21 and Link 25 (Block 707)



5.4.2 'VADER South' – Bravo (East) Taxiway between Link 25 and Link 27 (Block 709)



5.4.3 Appendix D of this OSI shows the locations of the VADER.

5.5 An overview of all de-icing pads on the airfield is shown in Appendix E of this OSI.

6. Pre-Season / In-Season Reporting

6.1 All DSPs undertaking de-icing operations must complete the 'Operation Specification Sheet', (see Appendix A of this OSI), prior to the winter season starting. They must confirm with HAL on which airline(s) they will be handling for the winter season as well as the following details:

- i. De-icer type to be used;
- ii. Product Specification Sheet;
- iii. Material Safety Data Sheet (MSDS);
- iv. Control of Substances Hazardous to Health (COSHH) Risk Assessment; and
- v. Where appropriate, the airline/aircraft owner in receipt of the de-icing service

6.2 This information and any subsequent changes to the operation must be communicated to HAL at airside_environment@heathrow.com.



7. De-icing Operational Reporting

- 7.1** Any de-icing operation undertaken must be reported on the Aircraft De-Icing Report Form - see Appendix B of this OSI.
- 7.2** The completed form must be e-mailed on a monthly basis to HAL via airside_environment@heathrow.com. Failure to submit this data may result in an infringement notice to the DSPs against their GOL.

Note: When using any products, HAL requires the volume in either Litres for liquids or Kilograms for solids.

- 7.3** De-icing fluid recovery operations will be recorded daily by the Airfield Duty Manager.

8. Environmental Responsibilities

- 8.1** DSPs are reminded that it is their sole responsibility to ensure familiarity with the safe and proper use of any hazardous materials and processes for de-icing. They must also take necessary precautionary measures to ensure the health & safety of all personnel involved in this process.
- 8.2** It is prohibited to dispose of waste de-icing fluid into the surface or foul water drainage systems. This applies to both neat and diluted products. To support the removal of waste de-icing fluid, a specialist hazardous waste contractor should be engaged.
- 8.3** All practical steps should be taken to avoid and minimise the risk of pollution by means of training, awareness of legislation, good maintenance of equipment and best practices.

9. Storage and Fluid Stock Requirements

- 9.1** DSPs are to remain compliant with the GOL with regard to storage and fluid stock levels.
- 9.2** DSPs are responsible for the provision of correct storage facilities inclusive of adequate containment/bunding capable of holding 110% of the total capacity of the storage vessel or self-bunded tanks. DSPs must ensure that the fluid is stored in bunded vessels (not road trailers) which are compliant with the relevant regulations and have been approved by HAL. All de-icing fluid storage vessels must be positioned at the designated areas approved by HAL. The selection of these sites shall include access for safe delivery and dispensing, consideration of drainage and, the risk of impact damage to storage containers. Should additional storage be required, contact should be made to airside@heathrow.com.



10. De-icing Communications on JEDI/VADER

- 10.1** Matrix boards should be used to communicate with the flight crew. If it is not available, standard ICAO hand signals should be used as an alternative.
- 10.2** After de-icing completion and prior to moving the aircraft, the flight crew must receive an “all clear” signal from the ground crew indicating that all de-icing related equipment is away from the aircraft.

11. Emergency Procedures

- 11.1** In the event of loss of communication with the flight crew, DSP personnel must be able to communicate via recognised ICAO hand communication signals.
- 11.2** If contact is made between the de-icing equipment and the aircraft, the DSP must inform HAL via 222 (HAL internal phone) or 020 8759 1212 (external phone) and the Pilot-in-Command immediately to provide specific information about where the contact was made. The equipment involved shall remain in position until an investigation can occur to inspect the affected area for damage.
- 11.3** For more information on HAL's incident and accident reporting procedure, reference should be made to ASSMS_OSI_067 Airside Incident Reporting.

12. Compliance

- 12.1** DSPs must attend all Aircraft De-icing Working Group meetings, pre-, during and after the winter season is over. These working groups are held monthly.
- 12.2** DSPs must comply with all normal operating procedures relating to the use of time stamps via the AOP system. In particular the context of winter operations, all de-icing time stamps must be accurately maintained and updated dynamically when changes occur. Failure to update timestamps accurately could result in inaccurate Target Start-up Approval Time, also known as TSAT, and thus the pre-departure sequence.
- 12.3** Each GHSP should include a training programme for flight crew, dispatchers and ground personnel in de-icing procedures. The air operator should ensure that these personnel are familiar with procedures and other required information. The training programme itself should have a Quality Assurance (QA) system in order to maintain a high level of competence following the guidelines and recommendations published in SAE AS6286 – “Training and Qualification Program for De-icing of Aircraft on the Ground”.

13. Enquiries

Any questions regarding the contents of this instruction or the subject matter should be referred to the HAL Airside Operations team at airside@heathrow.com.

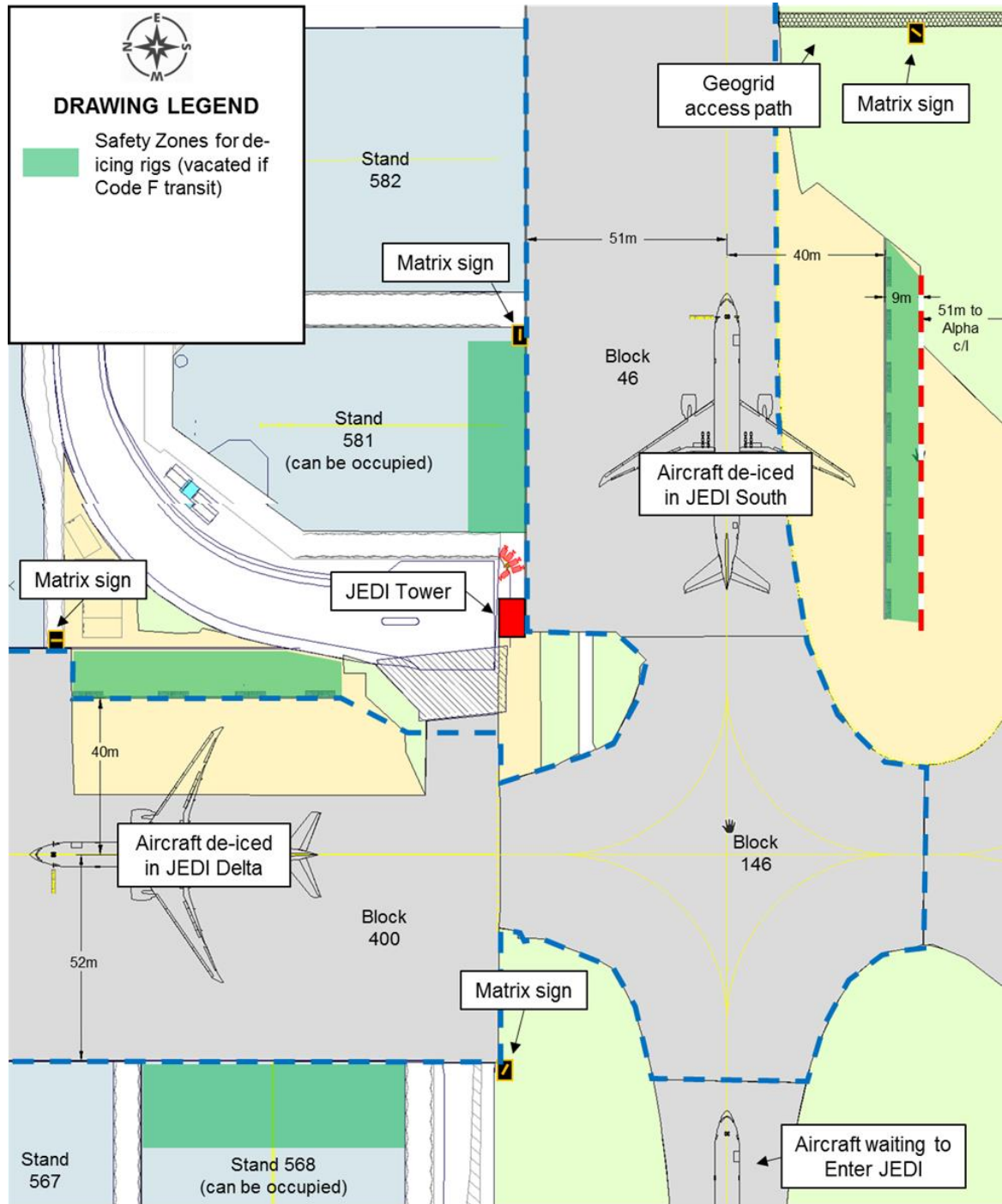


14. References

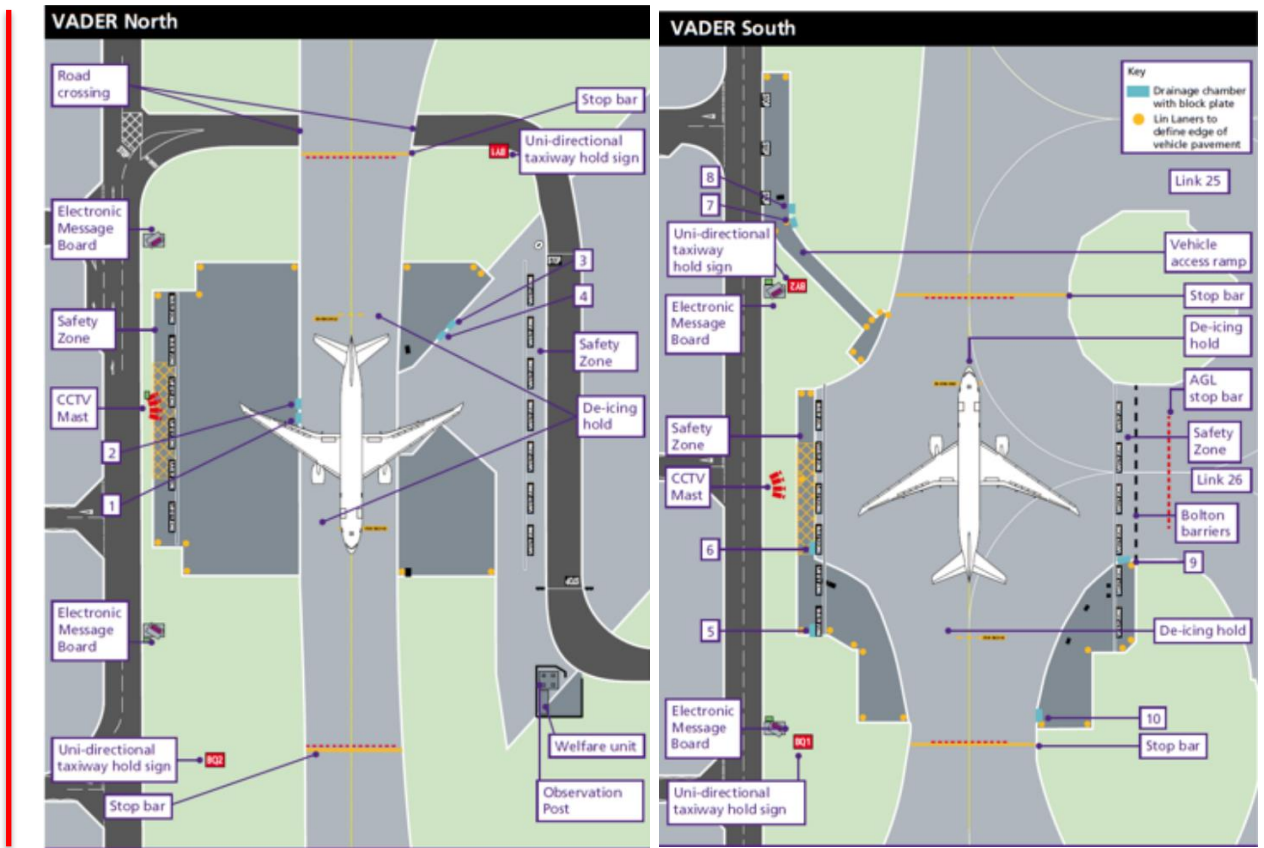
- The Environment Bill 2020
- The Environmental Permitting (England & Wales) Regulations 2016
- The Water Industry Act 1991
- The Water Resources Act 1991
- ASEnv_OSI_059_Incident Reporting Procedures
- ASEnv_OSI_056_Pollution Prevention
- Ground Operations Licence (including all schedules)
- Heathrow Aircraft De-icing Plan (HADIP)
- ICAO document 9640 Manual of Aircraft Ground De-icing/Anti-icing Operations
- SAE International standard AS6285 (Aircraft Ground De-icing/Anti-icing processes)
- SAE International standard AS6286 (Training and Qualification Program for De-icing/Anti-icing of Aircraft on the Ground).



Appendix C – JEDI Aircraft De-icing Pad Locations



Appendix D – VADER Aircraft De-icing Pad Locations



Document Data

Document Name De-icing Fluid Management Reporting Procedures	Document Reference Number ASEnv_OSI_057	Issue Date 7 th April 2017
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Author Name Vincent Chan	Approval Name Lisa Allen	Technical Approval Name Jakub Hajko
Aerodrome Manual Reference E.13.12	Airside Standard Reference ASWeather_Standard_014 _ Adverse Weather – Anti and De-icing	Airside Plan Reference N/A

Document History

Revision	Description of Change	Date
v1.0	Initial version	7 th April 2017
v2.0	Full review of the document, including operational awareness, de-icing facilities JEDI and VADER operational reporting, maps, de-icing communication and emergency procedures.	7 th September 2023

