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DATE _____ **2024**

Signed by:

Jesus Caballero Pinto

DB666EDE6051429...

JESUS CABALLERO

CHIEF EXECUTIVE OFFICER

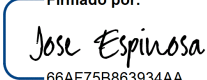
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AIRCRAFT DE-ICING PROCEDURE AM.E.15.4-3

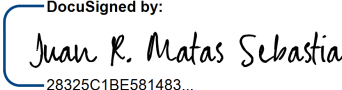
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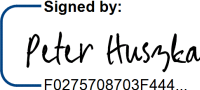
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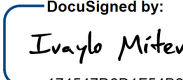
Prepared by :

Firmado por:

66AF75B863934AA...
Jose Espinosa
Safety Transformation Director

Agreed by:

DocuSigned by:

28325C1BE581483...
Juan Ramon Matas Sebastia
Chief Operating and Services Officer

Signed by:

F0275708703F444...
Peter Huszka
Chief Operations Officer

DocuSigned by:

174547D6D1F54B2...
Ivaylo Mitev
Director Safety Directorate

DocuSigned by:

9CD82700EABC482...
Alexander Kolev
Airside Director

DocuSigned by:

5959766EE8F2418...
Vera Zhekova
Head of Safety Management

DocuSigned by:

2AE3A84E23AC4B3...
Deyan Milanov
Head of AOCC

REVISION PAGE

Rev. №	Description	pages	Date
01	New document	All pages	10/2020
03	Revision and update of the procedure. Main change: de-icing pads renamed, de-icing pad access for vehicles and personnel, coordination between AOCC, GHOs and TWR, new de-icing stand 8D.	All pages	10/2024

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This document "Aircraft de-icing procedure", AM.15.4-3, revision 3, is part of the "Sofia Airport Manual".

Each page of the document is marked with edition number, change number, and date of compilation/date of modification.

the Accountable Manager of the company and maintained by the Chief Technical Officer.

One copy of the Procedure is provided to the recipients, according to the distribution sheet.

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1. PURPOSE

The purpose of this document is to define the places, order and conditions for performing operations on de-icing treatment of aircraft at Sofia Airport, as well as the safety rules in the treatment process. The procedure was developed by the Airport Operator, based on paragraphs 1 and 2, art. 48 "h" of the Law on Civil Aviation, EASA (EU) 139/2014 and is part of the Sofia Airport Manual.

The procedure is mandatory for all ground handling operators providing de-icing service and other organizations related to the procedure.

Aircraft de-icing fluids are pollutants that can cause considerable damage to the environment. Therefore, the procedure shall be performed only in the areas designated in this document.

2. ROLES AND RESPONSIBILITIES

Part B-2 of the Aerodrome Manual describes the main functions and responsibilities of Sofia Airport personnel, although this chapter details the responsibilities associated with this procedure:

ROLES	RESPONSIBILITIES
Airside Director	▪ Coordinates with internal stakeholders and BULATSA (ANSP) on all matters relating to airside management and in particular operational procedures. ▪ Supervise, update and/or develop operating procedures affecting the airside.
Head of Airport Operations Control Centre (AOCC)	▪ Coordinates with Airside Director and BULATSA (ANSP) on a continuous basis. ▪ Supervise tasks of AOCC and update and/or develop processes for the AOCC.
Airport Operations Duty Manager (AODM)	▪ Control and follow-up of aircraft de-icing requests. ▪ Coordinate the opening of a second de-icing pad upon request. ▪ Consultations with stakeholders in connection with a specific event, traffic situation, abnormality, handling problems and complaints, and reporting deviations and anomalies. ▪ Publish NOTAM or AON when necessary. ▪ Managing alarm-center function in case of Emergency situation and handling all special occasions and events at the airport. ▪ Reallocation of resources in case of incident and coordinate ARFF. ▪ Support AOCC operator on their tasks if necessary.
AOCC Operator	▪ Planning of de-icing pads use and de-icing stands allocation. ▪ Communicate the assigned de-icing stand to TWR and stakeholder's through the AHM system (AODB). ▪ Communicate a possible incident related with de-icing process to AODM, DAM and Sofia TWR. ▪ Update information on arriving and departing aircraft. ▪ Real-time coordination with Sofia TWR. ▪ Manage special weather condition coordination and information. ▪ Handle alarm tasks of Emergency Response Plan. ▪ Investigate operations-related delays. ▪ Recording of incidents.
Duty Airside Manager (DAM)	▪ Overview of all activities in real-time in the airside. ▪ Ensure daily the cleanliness and servicing of the de-icing pads. ▪ Manage the team of Airside Operations Officers and support them as necessary. ▪ Coordination of task on the movement area with AOCC and Sofia TWR.
Airside Operations Officer	▪ Provide apron guidance (Follow-me) and parking support service (Marshalling) when required. ▪ De-icing pads inspection and safety supervision. ▪ Safety supervision on the airside activities. ▪ Ground Handling operations supervision. ▪ Perform duties assign by the Duty Airside Manager (DAM).
Technician, airside contingency services	▪ De-icing pads inspection and safety supervision. ▪ Safety supervision on the airside activities. ▪ Ground Handling operations supervision. ▪ Perform duties assign by the Duty Airside Manager (DAM).
Sofia Tower (TWR)	▪ Provide clearance for engine start and/or push-back manoeuvre. ▪ Provide clearance for taxi instructions to aircraft and information on their designated de-icing site. ▪ Allows movement of aircraft. ▪ Performs duties in accordance with low visibility operating procedures (Enforce LVP). ▪ Transmits information related to emergency situations to the AOCC.

ROLES	RESPONSIBILITIES
Manager of the GHO	▪ Provides information on available de-icing equipment and teams. ▪ Always provides ground handling services, which includes aircraft de-icing. ▪ Provides qualified personnel and sufficient equipment to carry out de-icing procedures, and ensures they are carried out safely and at the right time. ▪ Submit requests for de-icing of aircraft. ▪ Report to the AOCC any de/anti-icing incidents that could jeopardize the process.
GHO De-icing coordinator	▪ Communicate with the flight crew and coordinate with them on the De-icing Pad the treatment to be applied to the aircraft. ▪ Ensure that personnel carry out de-icing operations safely and in accordance with regulated procedures. ▪ Report to his/her GHO Manager in case of lack of qualified personnel or failure of de-icing vehicles in the de-icing pad. ▪ Communicate his/her GHO Manager in case of any incident on the de-icing pad. ▪ Ensure that conditions for the safe movement of aircraft are met during the aircraft arrival and departure to/from the de-icing stand and during the de-icing treatment.

3. TYPES OF AIRCRAFT DE-ICING TREATMENT

3.1. Partial de-icing treatment of aircraft

Removal of snow and/or ice contamination by:

- (a) mechanical cleaning of aircraft surfaces, and/or
- (b) Hot air treatment with the aim of engine fan blade or propeller de-icing to ensure the possibility of starting the engines and independent movement (taxing) to the sites for full treatment.

3.2. Complete treatment of aircraft

Removal of snow and/or ice contamination from aircraft surfaces and applying a protective layer to prevent re-icing for a period, using anti-icing fluids.



4. AIRCRAFT DE-ICING AREAS

4.1. De-icing areas for partial treatment on stand

It can be performed at any apron stand or in specialized areas designated for de-icing, before, during or after ground handling, but always before starting the engines (engines shut down).

4.2. De-icing areas for full treatment on PAD

Sofia Airport has two remote de-icing pads where full treatment should be performed.

➤ De-icing pad LIMA

Located on the east side of the airfield between TWY L and TWY B

➤ De/anti-icing pad BRAVO

Located on the west side of the airfield between TWY A and TWY B

Both de-icing pads can operate in either direction. The direction will be determined by the ATS and may change during a particular day due to prevailing traffic flows.

Note: In some special cases and after AOCC approval, a full de-icing treatment can be applied in the apron stands (see section 3.2.3).

4.2.1. De-icing pad LIMA

It includes 4 stands operated as follows:

- Stand 1D: Located on TWY L and designated for treatment of one aircraft ICAO code E or lower.
Note: It will be used at the discretion of the AOCC in coordination with Sofia TWR. In case of need, when other de-icing stands are occupied, a third aircraft is waiting for treatment and there is de-icing equipment available.
- Stands 2 D and 4 D: Located on the de-icing pad, stands parallel to each other, intended for the simultaneous treatment of two aircraft ICAO code C or lower.
- Stand 3D: Located on the de-icing pad, stand in the center line of the pad (in parallel between stands 2D and 4D) intended for the treatment of an aircraft ICAO code E or lower.

4.2.2. De-icing pad BRAVO

It includes 3 stands operated as follows:

- Stands 5D and 6D: Parallel to each other, intended for the simultaneous treatment of two aircrafts ICAO code C or lower.
- Stand 7D: Located in the center line of the pad (in parallel between stands 5D and 6D) intended to handle one aircraft ICAO code E or lower when entering from TWY A to the PAD.
- Stand 8D: Located in the center line of the pad (in parallel between the stands 5D and 6D) intended to handle on aircraft ICAO code E or lower when entering from TWY B to the PAD. The stand lead-in line and info markings are painted in blue Stand **7(8)D** can be used in both directions for aircraft types with code "E" or lower.

4.2.3. Apron stands

As a general rule, aircraft de-icing treatment shall be carried out only at the designated de-icing pads. In certain cases, de-icing may be performed at other locations and is a subject to prior approval and decision of the AOCC in the following cases:

- Stands from number 29 to 34

De-icing may be carried out in these aircraft stands subject to approval by the AOCC and provided that the following circumstances are met:

- a) heavily iced aircraft, on which it is not possible to start the engines and move to the de-icing pad by itself.
- b) the aircraft does not perform a scheduled flight, and its condition requires prolonged anti-icing treatment.
- c) the need to use a passenger ladder to disembark a crew member for any reason after performing de-icing treatment.
- d) in other special cases by decision of the AOCC.

Note: Aircraft parked in stands other than those indicated above could be towed to one of these stands for de-icing.

- VIP "A" stands – State flights

Full de-icing treatment of aircraft parked in VIP area A may be carried out in accordance with and in compliance with the security procedures and measures established for that area.

- Stands from numbers 12A to 16A, 35 to 38 and 39 to 44 – General Aviation

It is allowed to carry out full anti-icing treatment when the de-icing pads sites are occupied or to apply one-step treatment with minimal amounts of fluid on days without precipitation.

De-icing treatment may be authorized in these stands if there is a need to improve aircraft traffic on the ground and there is a high occupancy of de-icing areas or if an aircraft only needs to apply one-step application on days when there is no precipitation. Aircraft de-icing treatment must be carried out before starting its engines.

5. AIRCRAFT ENTERING DE-ICING PADS

5.1. De-icing pad LIMA

Taxiing route in/out De-icing Pad Lima:

- To enter Pad Lima: Aircraft shall proceed via TWY L to Pad Lima (de-icing stands 1D, 2D, 3D or 4D);
- To exit Pad Lima:
 - from stand 1D, aircraft may continue taxiing on TWY L.
 - from stands 2D, 3D or 4D, aircrafts may exit the pad via TWY H.

5.2. De-icing pad BRAVO

Taxiing route in/out De-icing Pad Bravo:

- To enter Pad Bravo: Aircraft shall proceed via TWY J or TWY H and then via TWY B to Pad Bravo (de-icing stands 5D, 6D and 8D)
 - for stands 5D and 6D: aircraft may use the stand lead-in broken yellow lines.
 - for stand 8D: aircraft may use the stand lead-in blue line.
- To exit Pad Bravo: Aircraft shall exit the pad via TWY A and continue taxiing as instructed by ATC.

In case stand 7D must be used, the aircraft shall proceed from TWY A to the Pad Bravo following the stand lead-in yellow line. Aircraft shall exit the Pad via TWY B and continue taxiing as instructed.

6. PERSONNEL AND VEHICLES MOVEMENT

6.1. Personnel. Right of access

The following personnel have the right of access to the aircraft de-icing pads:

- a) Ground Handling Operators personnel directly involved in the aircraft de-icing process.
 - b) SOF Connect personnel performing supervision duties, airfield maintenance activities or other daily tasks and duties required by the aerodrome manual procedures.
 - c) CAA inspectors acting in an official audit.
 - d) Airline personnel performing operational inspections or required maintenance activities on their aircraft.
- Personnel must wear reflective vests and strictly always comply with airport safety regulations.
 - Personnel will only be able to access the de-icing Pad by vehicle. Crossing from the perimeter service road to the Pad and vice versa is prohibited.

6.2. Movement of vehicles to/from de-icing Pad LIMA

Vehicle access to Pad Lima will be as follows:

Access to the Pad Lima is via the eastbound perimeter service road, parallel to TWY L. At the pad of stand 1D, vehicles shall follow and respect the signalling of the service road crossing TWY L. Vehicles will make the 'Stop', making sure that no aircraft is approaching before crossing the taxiway Lima in the direction of Pad Lima.

From Pad Lima to the perimeter service road, vehicles shall follow and respect the signalling of the service road crossing TWY L. Vehicles will make the 'Stop' before crossing, making sure that no aircraft is approaching before crossing the taxiway Lima in the direction of the perimeter service road.

In both cases meanwhile waiting to cross, drivers will ensure that the vehicles are waiting outside the taxiway strip boundaries, delineated by dashed red lines.

Vehicles staying on Pad Lima shall be parked in the marked parking zones on the north and west sides of the Pad.

- **Attention:** When LVP in force, the crossing of the TWY L by vehicles should be done in accordance with the "Instruction for airside operations at Sofia airport in low visibility conditions"

6.3. Movement of vehicles to/from Pad Bravo

Vehicle access to/from Pad Bravo will be as follows:

Access to the Pad is along the westbound service road, parallel to TWY N, once past the VIP-A Apron (DAO), along its first right turn, crossing a closed section of TWY N towards the Pad.

Vehicles leaving the Pad will do so by following the reverse route indicated above.

Vehicles staying on Pad Bravo shall be parked as follows:

- Vehicles handling aircrafts on stand 5D: south end behind the west side safety strip of TWY A and in the parking zone on the south side of the Pad.
- Vehicles handling aircrafts on stand 6D: south end behind the west side safety strip of the TWY A and in the parking zone on the north side of the Pad.
- Vehicle handling aircrafts on stand 7D and 8D: parking zone on the north side of the Pad.
- Other vehicles will be parked on the south side of the service road.

Please refer to Annex 1 to see the layout of Pad Bravo

7. AIRCRAFT DE-ICING PROCESS

7.1. De-icing request

Timely requests for aircraft de-icing are essential to ensure an orderly turnaround process. This is especially true to ensure the presence of available de-icing vehicles on the de-icing pads.

Due to the influence that aircraft de-icing has on sequencing, it is urgently recommended that de-icing is requested not later than EOBT - 30 min. If this is not possible due to shorter turnaround times or other factors, the de-icing must be requested by EOBT - 20 min. at the latest.

Pilots are requested to promptly contact their ground handling service provider to request de-icing. De-icing requests will be requested via email to the AOCC by the Handling Ramp Coordinator of each ground handling service using the form shown in Annex 2.

Only in special circumstances will the AODM be able to accept requests via telephone. Acceptance of a request via telephone is not exempt from written submission.

ACC contacts			
Airport Operations Control Centre Duty Manager – AODM		AOCC	
Phone:	+359 2 937 2160	Phone:	+359 2 937 2155 +359 2 937 2156 +359 2 937 2157
Mobile phone:	+359 878 873 633		
Email:	aodm@sof-connect.com	Email: aocc@sof-connect.com	

If the pilot places the de-icing request with ATC after leaving the aircraft stand, then ATC will give instructions to hold in a stand, intermediate holding point or in a holding point for sequencing and to coordinate the de-icing process.

7.2. De-icing treatment request and sequence.

After receiving the de-icing request for a flight, the AOCC operator shall assign the de-icing stand and enter it into the AHM. Through the AHM system the TWR can check which aircraft have requested de-icing and the stand allocated by the AOCC.

The TWR will coordinate the taxi sequence considering the de-icing requirement together with the aircraft FPL (EOBT and CTOT if applicable).

On first radio contact between the TWR and the departing aircraft, the controller shall confirm with the crew the de-icing requirement. The controller will inform the crew of the de-icing stand together with taxiing instructions.

For safety and operational reasons, the de-icing pad in use shall be determined by the runway in service, therefore:

- PAD LIMA shall be active when the runway in service is RWY27.
- PAD BRAVO shall be active when the runway in service is RWY09.

As indicated in paragraph 4.2.3, aircraft de-icing on apron stands shall also be required to be submitted to the AOCC for approval.

The airline's ground handling operator must provide sufficient personnel and de-icing vehicles in the de-icing pad to avoid unnecessary delays and ensure an orderly sequence.

7.3. Simultaneous de-icing procedure in both Pads

If required for operational reasons and for the improvement of departure schedule adherence, it is possible to open a second pad for simultaneous de-icing processes in both pads.

Performing the de-icing in the second de-icing pad involves a longer taxi time for the departing aircraft, as it is located close to the threshold of the opposite runway, and therefore, puts at risk the Holdover Time (HOT) compliance for the crew.

Therefore, the Pilot-In-Command (PIC) has the ultimate responsibility for the aircraft and may refuse to de-ice in the second area as it involves a longer taxi time for aircraft de-icing in the pad further away.

When a second de-icing pad is used, the Pilot-In-Command (PIC) should expect the takeoff, after de-icing to be from the usable runway according to ATIS!

There is also an increased risk of confusion of taxi instructions, submitted by ATC to the aircraft crew, involving aircraft incidents etc.

- The opening of the additional area shall be upon request to the AOCC from the Airline or its representative (GHO) by email sending De-icing Pad Opening Request form (see section 11.5 De-icing Pad Opening Request form).

No later than 60 minutes before ETD (Estimated Time of Departure) of the first intended aircraft to be de-iced at the second de-icing pad, the airline or its representative (GHO) shall submit a request by e-mail to the AOCC (aocc@sof-connect.com).

The Airport Operations Duty Manager (AODM) shall coordinate the possible pad opening with:

- a) Sofia TWR to ensure that the opening is operationally possible; and
- b) with the Duty Airside Manager (DAM) to ensure with the Airside Ops team that the second de-icing pad is clean and serviceable.

Subsequently, the AODM shall inform the air carrier/GHO about the decision and in case of affirmative answer, the estimated time of opening.

The airline's ground handling operator will be responsible for ensuring staffing and providing GSE equipment in the additional de-icing pad for their airline and to inform the PIC of the request for de-icing in the additional de-icing pad.

7.4. Execution of aircraft de-icing

7.4.1. De-icing Pad preparation

On a daily basis, one hour (1h) before the first scheduled flight of the day, the Duty Airside Manager will ensure with his/her team that the de-icing pad in use is clean and serviceable.

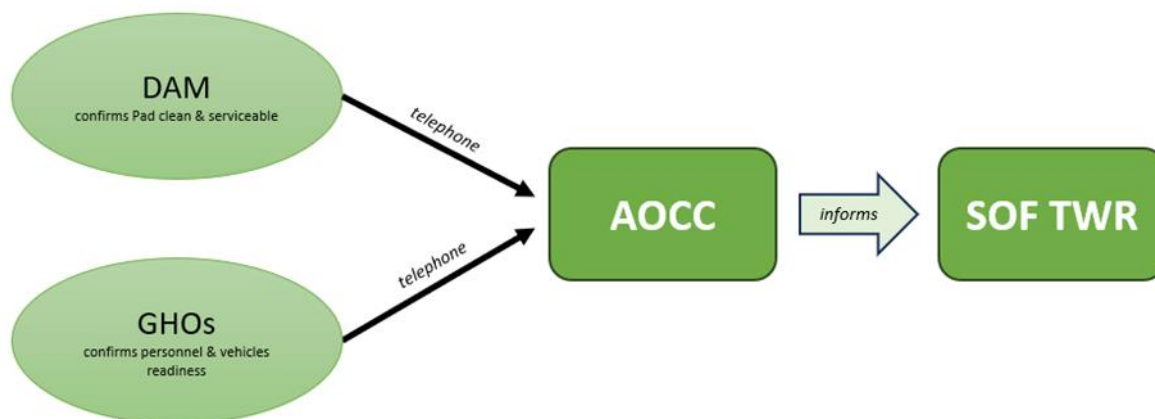
Airside Operations Officers (AOO) and Technicians, airside and contingency services will ensure:

- the visibility of the stand markings, and

- proper lighting of the pad.

If required, the DAM will coordinate with the Airfield Services Sector the cleaning of the area before the arrival of the GHO teams with the GSE.

Once the GHO teams are in position and ready, the GH Coordinator will communicate via telephone the operational readiness status of his/her team to the AOCC. AOCC will immediately notify DAM and Sofia TWR and documents the de-icing team's readiness in the daily report.



Example of communication between GHO and AOCC:

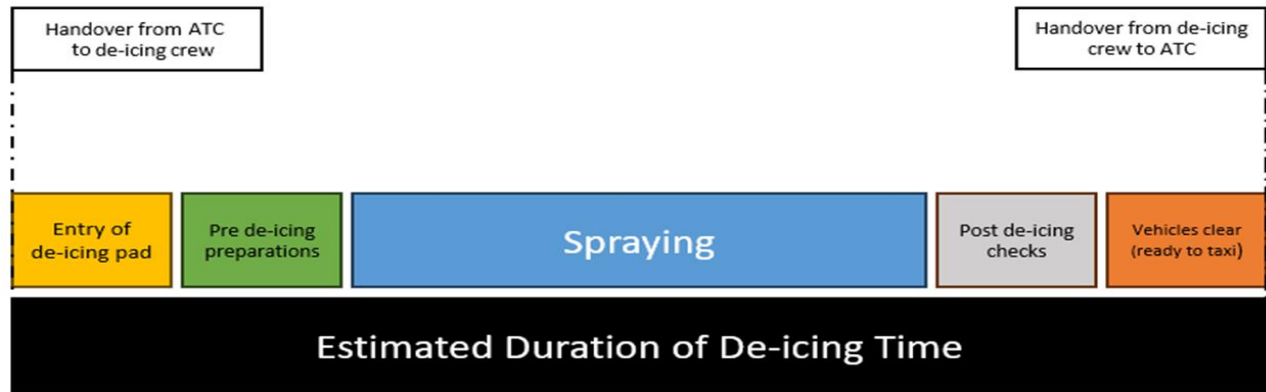
"Swissport coordinator, the PAD Lima, the teams and equipment are in place. The de-icing pad is ready to receive the aircraft"

7.4.2. Aircraft positioning on stand

When an aircraft is approaching the de-icing area, Sofia TWR shall provide to the aircraft information related with the frequency to coordinate the de-icing process. The frequencies specified for each de-icing zone are:

DE/ANTI-ICING PAD	RADIO-FREQUENCY	CALL SIGN
LIMA de/anti-icing pad	131.625 Mhz	Lima coordinator
BRAVO de/anti-icing pad	121.710 Mhz	Bravo coordinator

The entry of the aircraft into the de-icing stand is considered the start of the de-icing process/time and is until the aircraft re-contacts Sofia TWR with a declared readiness to taxi.



Aircraft enters independently along the center line of the stand assigned by Sofia TWR and stops on the marked "Stop" line (on the port side).

The GHO coordinator shall observe that the aircraft enters and stops at the parking stand in a safe manner. If required by the flight crew or the GHO the marshalling service can be requested from AOCC.

STOR E	Directional signage	De/anti-icing pad	NOTES
1D	- Stand line* - Main stop line (left side)	Lima de/anti-icing pad	Location of the de-icing site <i>* The TWY L marking is used for the stand marking</i>
2D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (right side)	Lima de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position Location of the de-icing pad
3D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (left side)	Lima de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position Location of the de-icing pad
4D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (left side)	Lima de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position Location of the de-icing pad
5D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (left side)	Bravo de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position Location of the de-icing pad
6D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (left side)	Bravo de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position Location of the de-icing pad
7D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (left side)	Bravo de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position Location of the de-icing pad
8D	- Stand information – number marking - Leading lines on the Stand - Stand line - Main stop line (left side)	Bravo de/anti-icing pad	The marking of the main stop line (transverse) indicates the cockpit position. Used BLUE colour for marking Location of the de-icing pad

7.4.3. Aircraft de-icing process

- a) The GHO de-icing coordinator shall communicate with the flight crew on the VHF frequency assigned for each de-icing pad (see section 7.4.2) for coordination of the operation between the flight crew and ground personnel. If necessary, the coordinator may also communicate via “Headset”.
- b) At the signal of the GHO de-icing coordinator, vehicles approach the aircraft and start the de-icing process according to the type of aircraft and flight crew instructions.
- c) After the completion of the process (spraying):
 - i. GHO coordinator (or another authorized person from the GHO) performs the post de-icing check and relevant documents are completed if required.
 - ii. Vehicles and ground personnel are pulled back to their starting positions in the safety zones.
 - iii. GHO coordinator conducts a safety inspection around the aircraft and reports to the PIC the "De - icing code" on the VHF frequency confirming that the de-icing process is completed and area around aircraft is free of vehicles and ground personnel.

The following communication diagrams describe standard communication in a normal operation between flight crew and ground de-icing team and are shown here only as examples.

FLIGHT CREW	GROUND HANDLING TEAM
BEFORE STARTING THE PROCESSING	
LIMA/BRAVO COORDINATOR, [ARCID], [REG], ON STAND [NUMBER] REQUEST DE-ICING	GOOD MORNING (GOOD EVENING) [ARCID] [REG], LIMA/BRAVO COORDINATOR, PLEASE TAXI ONTO STAND [NUMBER], FOLLOW THE YELLOW/BLUE LINE AND STOP ACCORDING WITH THE SELF-STOP MARKING ON YOUR LEFT [ARCID], CONFIRM PARKING BRAKE, BRAKES SET, AIRCRAFT CONFIGURED, AND TREATMENT REQUIRED HOLD POSITION, DEICING STARTS NOW
[ARCID], TAXI ONTO STAND [NUMBER]	
[AFFIRM], PARKING BRAKE SET, AIRCRAFT CONFIGURED, REQUEST (Specify treatment requirements including surfaces to be treated, fluid type(s), deicing only, anti-icing only or deicing/anti-icing (two-step ("HOLDOVER REQUIRED")), etc.)	
HOLD POSITION	
COMMUNICATION AFTER COMPLETION OF THE DE/ANTI-ICING	

[ARCID], HOLD POSITION AND WITH SOFIA TWR FOR FURTHER INSTRUCTIONS	[ARCID], DEICING COMPLETE. ADVISE WHEN READY FOR INFORMATION ANTI-ICING CODE: (a) TYPE OF FLUID (TYPE I OR II OR III OR IV) AT PERCENT OF MIX FOR TYPE II, III OR IV (b) (FLUID MANUFACTURER, BRAND/TRADE NAME) (MIXTURE RATIO (IN PERCENT))* <i>*required for Type II, III, and IV fluids only. Omit if one-step deicing only procedure was performed</i> c) ANTI-ICING BEGAN AT (HH:MM (local time)), POST-DEICING CHECK COMPLETED, DEICING PERSONNEL AND EQUIPMENT ARE SAFELY AWAY d) HOLD POSITION AND CONTACT SOFIA TWR FOR FURTHER INSTRUCTIONS
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At this point, the flight crew CONTACTS Sofia TWR to request additional taxi instructions.

7.4.4. Site readiness for further processing

When an aircraft leaves the de-icing stand, the following actions shall be taken by the GHO coordinator to ensure continued safe operations at the pad:

- a) Checks the cleanliness of the stand. If necessary, the GHO coordinator will request the AOCC cleaning unmelted snow and ice on the pavement after the treatment.
- b) Confirms whether all personnel and vehicles have taken a "starting position" in the safety zones.
- c) Communicates by telephone to the AOCC that the de-icing pad/stand is ready to receive an aircraft.

8. SAFETY MEASURES

8.1. General requirements

Ground personnel performing activities on the de-icing pad are required to comply with airport rules and regulations as well as any instructions they may receive directly from SOF Connect Airside staff (Airport Operations Officers).

Ground personnel must always wear clothing in a signal colour (yellow or orange) and reflective stripes.

Only authorized vehicles may be operated on the de-icing areas during de-icing operations. No other vehicles may drive on the de-icing areas, nor are persons permitted on the de-icing areas outside of the authorized vehicles during de-icing operations. The traffic and licensing regulations for the security restricted area at Sofia Airport apply to such other vehicles and persons on the de-icing areas. Unobstructed short-term parking for vehicles and equipment is available directly beside the stand-by areas marked for de-icing equipment.

During processing, the GHO coordinator must carry VHF radio station and telephone to ensure a constant connection with the flight crew and the AOCC. As well, if necessary, must carry UHF radio to maintain communication with his/her team members.

8.2. Safety rules

When vehicles are not undergoing de-icing operations and are on standby, they shall be parked in the safety zones marked as initial position at a safe distance from stands.

While de-icing vehicles are in the de-icing area they shall keep their lights, including the beacon, on always.

All participants in the de-icing process shall remain at their departure positions in the safety areas at PAD LIMA – P2 (as per Annex 1 and Annex 2) and in PAD BRAVO – P1 (Annex 3) until the aircraft is stopped at the appropriate position and clearance to enter is received from the de-icing coordinator.

No personnel are allowed to enter the de-icing pads with other means of transport except those used by the teams for de-icing treatment of the aircraft and those of the de-icing coordinators.

No more than one official from each ground handling/airline operator is allowed to enter the site to perform certain supervisory or control functions.

The movement of people and equipment in front of the anti-icing vehicles or under the boom during processing (spraying) is prohibited.

When handling an aircraft with running engines with one car, after completing the handling of the left side of the aircraft, it turns back, with a right turn, passes in front of the nose of the aircraft and continues processing on the right side of the aircraft.

It is forbidden to pass the de-icing vehicle behind the tail of the aircraft for positioning to process the starboard side of the aircraft!!!

When processing an aircraft with running engines with two cars, for processing the body behind the wing and tail of the aircraft, the cars are positioned outside the zone of action of the jet, and after the end of processing they leave with a manoeuvre without entering the zone.

Processing of an aircraft with working propeller engines is carried out only after blocking the rotation of the propellers (when the propellers are stationary).

It is prohibited to pass the de-icing vehicle behind the tail of the aircraft for positioning for processing on the starboard side of the aircraft or for leaving the stand after the end of processing!!!

The GHO coordinator monitors the safe location of the other teams processing an adjacent position and, if necessary, gives instructions to move to a safe distance.

9. INTERACTION BETWEEN GHOS IN AN ABNORMAL SITUATION

An abnormal situation in the de-icing process is considered to occur in cases where a ground handling operator is unable to perform in a safe and timely manner the de-icing treatment for any reason and causes delay to departing aircraft or partial or total interruption of the normal de-icing process.

An abnormal situation shall be considered to exist when more than 2 aircraft are awaiting treatment due to:

- a) lack of personnel to perform the operations.
- b) for technical reasons, the required minimum number of de-icing vehicles are not provided to perform the service at short notice without causing delays in the flight schedule.
- c) failure of a de-icing vehicle due a technical problem (system and/or unit failure).
- d) other reasons preventing the execution of operations in a timely and safe manner.

Actions by GHOs officials in case of abnormal de-icing situation

GHO Manager or GHO Coordinator

In case of lack of capacity to perform the operations (cases described above), the Ground Handling Operator Manager is obliged to:

- take actions to transfer (assign) the de-icing activity to another Ground Handling Operator until the necessary capacity is ensured and,
- to communicate accordingly with the AOCC by email, notifying the ground handling operator which will carry out the de-icing treatments during the abnormal situation. It will also notify via email when the incident is resolved, and normal de-icing operation can be resumed by his/her company.

GHO Coordinator

In case of failure of a de-icing vehicle during a de-icing process:

- immediately report to his/her manager and the AOCC, notifying the expected delay for single-vehicle de-icing process.
- take the necessary actions to remove the unserviceable vehicle to a safe distance within the site area or beyond (if possible).
- *Repairing a vehicle in the Pad is allowed only if it is not related/accompanied with fuel or oil spilling and/or if the actions do not interfere with the normal work of the other operators at the Pad.*
- Supervises the completion of the started de-icing process of the aircraft with one vehicle.

If the minimum number of de-icing vehicles is not met before continuing with the de-icing processes, the GHO Manager or GHO Coordinator shall take action to assign the activity to another ground handling operator.

Note: Single vehicles de-icing process is permitted only in cases when de-icing is required only on the aircraft wings or if there are no other aircraft waiting to be processed, served by other ground handling operators.

9.1. Actions by AOCC in case of abnormal de-icing situation

AOCC will take the following actions:

- Register and record on the daily log when GHO has reported a vehicle failure during a de-icing process of an aircraft.
- Request from the GHO Manager full information about the incident and the expected delay in operations.
- Contact Sofia Tower and inform them about the incident and expected delay in operations.

10. MONITORING AND SANCTIONS

This procedure is mandatory for all ground handling operators performing aircraft de-icing treatment at Sofia airport.

10.1. MONITORING

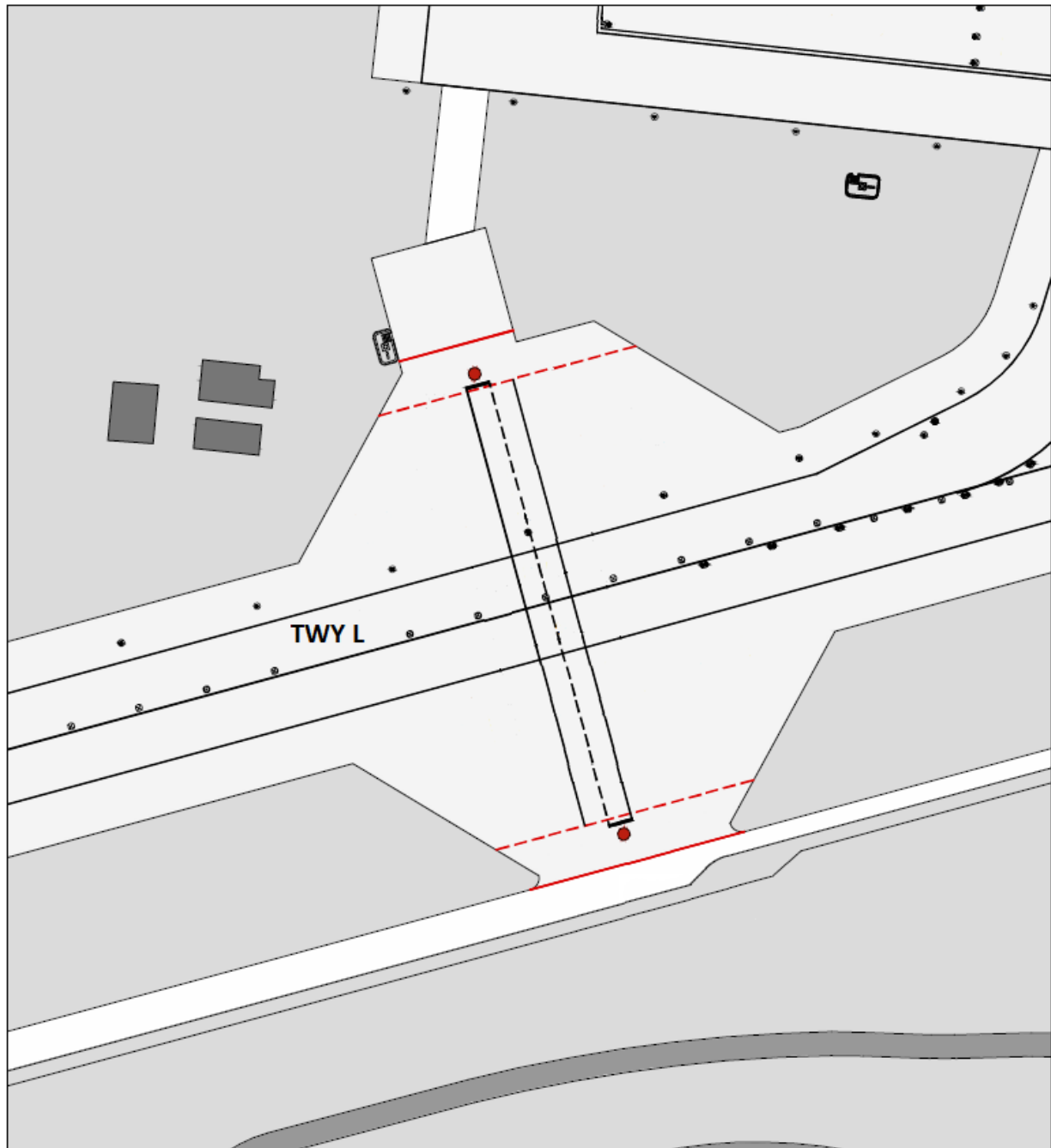
The monitoring is performed by SOF Connect as Airport Operator, through the Airside Operations Officers (AOO), Technicians, airside contingency services, Duty Airside Managers (DAM) and the Airport Operations Control Centre (AOCC).

10.2. Investigations and Sanctions

In the event of non-compliances by ground handling operators in the provision of aircraft de-icing service affecting the safety and/or regularity of scheduled flights, the SOF Connect as airport operator shall send a report to the Bulgarian Civil Aviation Authority (CAA) for appropriate necessary actions.

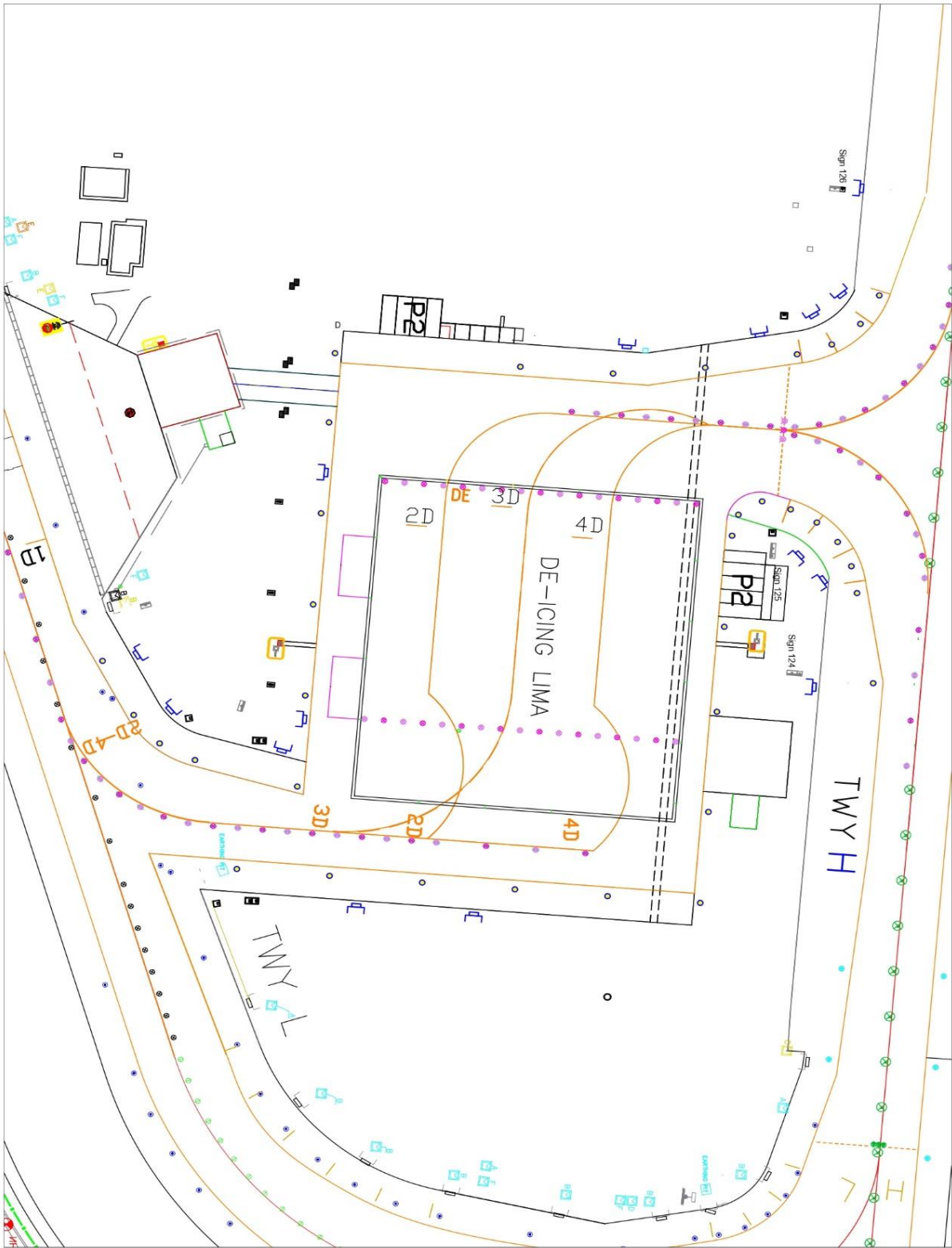
11. ANNEXES

11.1. Annex 1. Shame of TWY L crossing positions

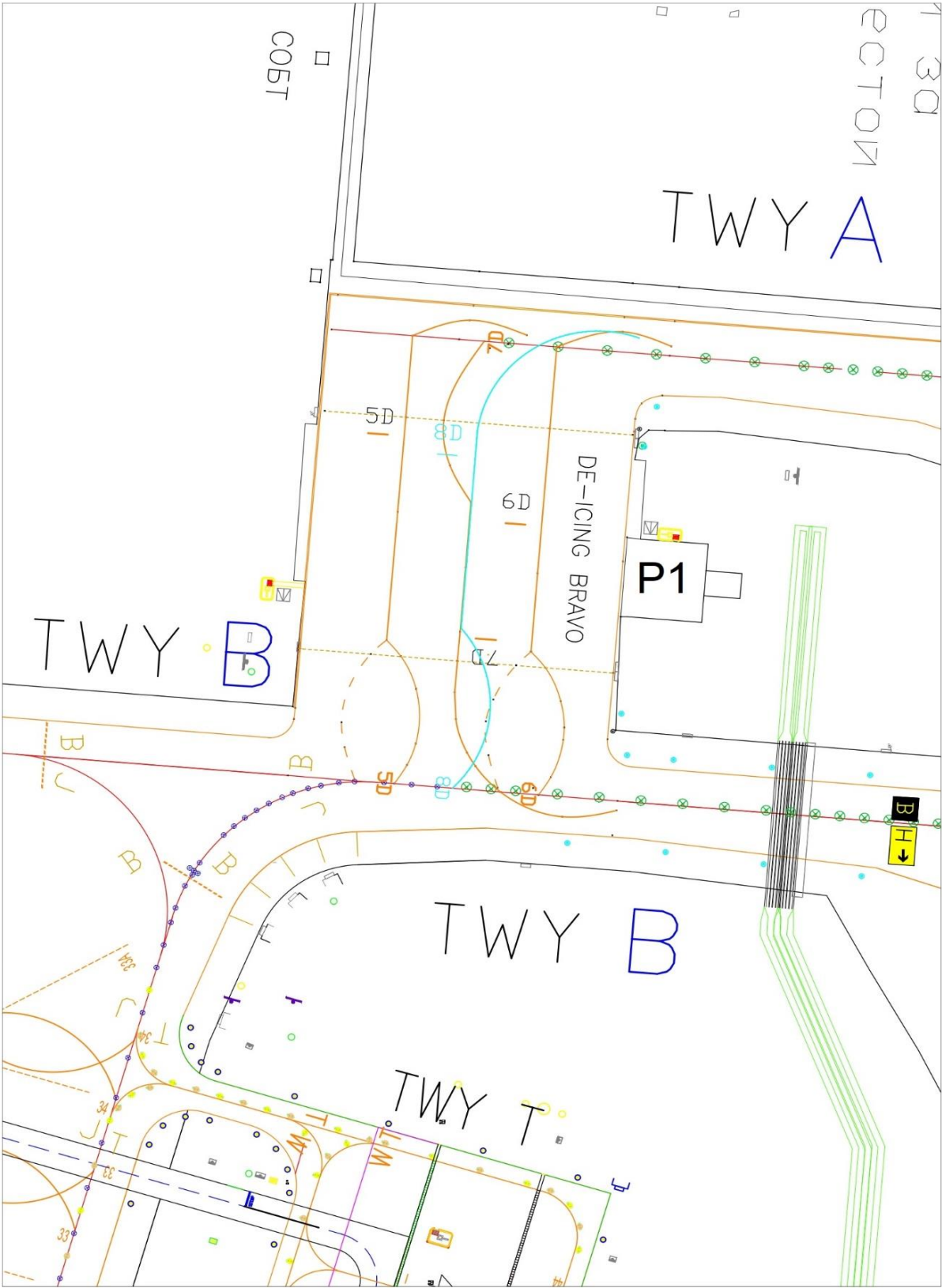


Scale 1 : 1.000

11.2. Annex 2. Shame of de-icing platform Lima (PAD L)



11.3. Annex 3. Shame of de-icing platform Bravo (PAD B)



11.4. Annex 4. Aircraft De/Anti-Icing Request Form

SOFIA AIRPORT OPERATED BY SOF CONNECT		AIRCRAFT DE-ICING REQUEST		
Attn ЛКЦ (АОСС), please note the following flight(s) require de-icing treatment for coordination and sequencing with the Sofia Tower. <i>Моля, обърнете внимание на следния(те) полет(и), който(ито) изисква(т) обработка срещу обледеняване, за да го(ги) координирате със София кула.</i>				
Flight № <i>Полет №</i>	Registration <i>Регистрация</i>	ACFT Type <i>Тип на ВС</i>	Destination <i>Направление</i>	Scheduled time of departure <i>Планиран час на излитане</i>
Remarks <i>Забележки</i>				
Requested by: [ОНО (GHO)/Airline] <i>Заявено от</i> Name and position: <i>Име и длъжност</i>		Please forward this request by email: <i>Моля, изпратете тази заявка по имейл</i> ЛКЦ(АОСС): aocc@sof-connect.com ДРЛКЦ (AODM): aodm@sof-connect.com		

11.5. Annex 5. De-icing Pad Opening Request Form

SOFA AIRPORT OPERATED BY SOF Connect		DE-ICING PAD OPENING REQUEST		
Attn ЛКЦ (AOCC), We request the opening of the following additional de-icing pad on behalf of the airline and flight(s) below. I guarantee that my company has sufficient personnel and equipment to cover the needs of the normal operation for both de-icing pads and I confirm that the flight crew(s) of the aircraft(s) below have been informed that the de-icing process will be carried out in the additional pad (further away from the runway in service). Моля, от името на авиокомпанията и полета(ите) по-долу да бъде открита следната допълнителна площадка за антиобледеняване. Гарантирам, че моята компания разполага с достатъчно персонал и оборудване, за да покрие нуждите на нормалната експлоатация на двете площадки за антиобледеняване, и потвърждавам, че полетният(ите) екипаж(и) на въздухоплавателното(ите) средство(а) по-долу е(са) информиран(и), че процесът на антиобледеняване ще се извършва на допълнителната площадка (по-далеч от обслужваната писта).				
Flight № Полет №	Registration Регистрация	ACFT Type Тип на ВС	Destination Направление	Scheduled time of departure Планиран час на излитане
Remarks Забележки				
Requested by: [ОНО (GHO)/Airline] Заявено от Name and position: Име и длъжност		Please forward this request by email: Моля, изпратете тази заявка по имейл ЛКЦ (АОСС): ЛКЦ aocc@sof-connect.com ДРЛКЦ (AODM): aodm@sof-connect.com		