



## WORKSHEET

# (OPS.22) Aircraft ground de-icing/anti-icing program

Applicant name	Applicant ARN	EAP case number	File reference
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## Instructions

1. Use this worksheet for the assessment of the aircraft ground de-icing/anti-icing program.
2. All sections below should be completed unless the inspector selects not applicable (N/A). Some sections require both an AWI and FOI assessment.
3. The compliant column is used to record evidence that supports an assessment of *present* and *suitable* for the operation. Select a response from the drop down list. There are four available responses: **Yes** / **No** / **MI** (more information) / **N/A** (not applicable). Yes indicates that both present and suitable have been satisfied and the element is compliant with the rule.
4. Unless otherwise stated, the legislation reference refers to the *Civil Aviation Safety Regulation 1998* (CASR).
5. For guidance on specific aspects of each question, refer to the respective section in the principle document as identified in the principle reference column.
6. The assessment summary must be completed by all relevant parties. By selecting satisfied or not satisfied, the inspector is taken to have signed the worksheet.
7. Where required, the approval data sheet must be completed by the assigned inspectors. Regservices will use this information to prepare approvals for the delegate.

## 2.1 Ground de-icing/anti-icing program

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.1	Has the operator included a ground de-icing/anti-icing program in their exposition/operations manual?	FOI		
121.345 133.275 135.310 138.380	2.1	Does the program have the necessary elements to ensure aircraft will be kept in an airworthy condition prior to take-off?	FOI		

## 2.2 Clean aircraft concept (CAC)

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.2	Does the exposition/operations manual describe the clean aircraft concept (CAC)?	FOI		

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.2	Does the exposition/operations manual articulate that the responsibility for the CAC lies with the pilot in command?	FOI		

## 2.3 Weather and icing conditions

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.3	Does the exposition/operations manual adequately describe the atmospheric and ambient conditions that can cause ground icing to aircraft surfaces?	FOI		
121.345 133.275 135.310 138.380	2.3	Does the exposition/operations manual adequately describe types of precipitation?	FOI		

## 2.4 De-icing/anti-icing fluids

Are de-icing/anti-icing fluids used in the program?

☐

Yes

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N/A – do not complete this section

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.4	Does the exposition/operations manual provide guidance on the types of de-icing/anti-icing fluid to be used?	FOI		
121.345 133.275 135.310 138.380	2.4.1	Does the exposition/operations manual include an instruction for ensuring the aircraft is de-iced and all residue is removed before applying further anti-ice treatments?	AWI		
121.345 133.275 135.310 138.380	2.4.1	If the applicant operates into airports that de-ice the runways, are procedures included in the exposition/operations manual to remove the runway de-icing fluid from the aircraft prior to the application of anti-icing fluids?	AWI		
121.345 133.275 135.310 138.380	2.4	Does the de-icing/anti-icing program detail procedures for storage and testing prior to use?	AWI		

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.4	Does the de-icing/anti-icing program explain how to conduct a check of the fluids for: <ul style="list-style-type: none"> <li>• refractive index</li> <li>• visual contamination</li> <li>• temperature</li> <li>• pH-value checks (if required)?</li> </ul>	AWI		
121.345 133.275 135.310 138.380	2.4	Does the de-icing/anti-icing program include a process for fluid acceptance, delivery inspection and retention of documentation?	AWI		
121.345 133.275 135.310 138.380	2.4	Does the de-icing/anti-icing program include a fluid sampling program?	AWI		
121.345 133.275 135.310 138.380	2.4	Does the de-icing/anti-icing program describe how fluid is stored and how its shelf-life is monitored?	AWI		

## 2.5 Hold over time (HOT)

Is HOT applicable to the program?

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Yes

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N/A – do not complete this section

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.5	Has the operator provided a HOT table to all personnel involved in de-icing/anti-icing operations?	FOI		
121.345 133.275 135.310 138.380	2.5	Are the HOT tables produced by a recognised source?	FOI		
121.345 133.275 135.310 138.380	2.5	Is there a process to ensure that updated HOT tables are provided to all personnel involved in de-icing/anti-icing operations, before each winter season?	FOI		
121.345 133.275 135.310 138.380	2.5	Do the HOT tables cover the type, manufacturer and brand of fluid being used by the operator?	FOI		

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.5	Do the HOT tables contain the factors that can affect performance based on weather conditions and fluid types?	FOI		
121.345 133.275 135.310 138.380	2.5	Does the exposition/operations manual provide instructions to the PIC on what actions to take if a HOT expires before take-off?	FOI		

## 2.6 Communications

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.6	Does the exposition/operations manual provide instructions to the PIC on the communications required between the flight crew and ground crew during de-icing/anti-icing operations?	FOI		
121.345 133.275 135.310 138.380	2.6	Does the exposition/operations manual list what written information must be given to the flight crew after de-icing/anti-icing fluid application?	FOI		

## 2.7 Ground de-icing/anti-icing processes

Are ground de-icing/anti-icing operations conducted?

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Yes

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N/A – do not complete this section

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.7.1	Does the de-icing/anti-icing program clearly define the roles and responsibilities for de-icing/anti-icing operations?	AWI		
			FOI		
121.345 133.275 135.310 138.380	2.7.2	Does the de-icing/anti-icing program include the use of alternative de-icing procedures that don't involve fluid application?	AWI		
121.345 133.275 135.310 138.380	2.7.3	Does the exposition/operations manual list the facility requirements and location for the intended operation?	AWI		



Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.7.4	Does the de-icing/anti-icing program include checks that must be conducted as part of the de-icing/anti-icing operation?	AWI		
			FOI		
121.345 133.275 135.310 138.380	2.7.5	Does the de-icing/anti-icing program include guidelines to personnel on the application of fluids to aircraft?	AWI		
			FOI		

## 2.8 Ground de-icing/anti-icing equipment

Is ground de-icing/anti-icing equipment used?

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Yes

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N/A – do not complete this section

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.8	Is the ground de-icing/anti-icing equipment maintained annually to ensure performance, functionality and calibration?	AWI		
121.345 133.275 135.310 138.380	2.8	Is the de-icing/anti-icing equipment appropriate for the operation?	AWI		
121.345 133.275 135.310 138.380	2.8	Is the equipment and tanks appropriately labelled in accordance with OEM standards?	AWI		
121.345 133.275 135.310 138.380	2.8	Is the equipment used during the de-icing/anti-icing process calibrated by a NATA approved organisation?	AWI		

## 2.9 Training and quality assurance

Are ground de-icing/anti-icing operations conducted?

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Yes

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N/A – do not complete this section

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.9.1	Does the operator have, for both ground personnel and flight crew, a suitable training syllabus for ground de-icing/anti-icing operations?	AWI		
			FOI		
121.345 133.275 135.310 138.380	2.9.1	Has the operator ensured that all staff and contractors involved with ground de-icing/anti-icing operations are trained and qualified?	AWI		
			FOI		

Legislation reference	Principle reference	Question	Inspector	Compliant?	Inspector comments
121.345 133.275 135.310 138.380	2.9.1	Does the operator have a suitable method for managing personnel training records?	AWI		
			FOI		
121.345 133.275 135.310 138.380	2.9.2	Has the operator developed an internal audit program, or do they participate in the IATA de-icing/anti-icing quality control pool (DAQCP)?	AWI		

# Assessment summary

Applicant name		Applicant ARN		EAP case number		File reference	
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This worksheet verifies that the assessment of the aircraft ground de-icing/anti-icing program, for the above-named applicant, has been assessed in accordance with the current revision of Protocol (OPS.22).

Inspector name		Title	Airworthiness Inspector	Date	
Inspector name		Title	Flying Operations Inspector	Date	

## Assessment

The exposition/operations manual has been assessed in accordance with the *Civil Aviation Safety Regulations 1998* to ensure it supports the de-icing/anti-icing program.

### Airworthiness inspector

- ☐ I am satisfied that the exposition/operations manual meets the requirements mentioned in the regulations (as applicable).
- ☐ I am not satisfied that the exposition/operations manual meets the requirements mentioned in the regulations.

### Flying operations inspector

- ☐ I am satisfied that the exposition/operations manual meets the requirements mentioned in the regulations (as applicable).
- ☐ I am not satisfied that the exposition/operations manual meets the requirements mentioned in the regulations.

## Reason for recommendation

# Approval data sheet

Applicant name		Applicant ARN		EAP case number		File reference	
Inspector name			Title	Flying Operations Inspector		Date	

Tick the relevant boxes and insert details.

## ☐ Significant change recommendation

Use this section if the application was received as a significant change.

(1) The proposed significant change(s) to the exposition/operations manual have been assessed in accordance with the requirements mentioned in:

☐ paragraph 119.205(1)(m)      ☐ paragraph 138.155(1)(m)

### Inspector

☐ I recommend the significant change

☐ I do not recommend the significant change.

### Exposition/operations manual revision reference

Title	Version	Date	RMS reference number

Note: Regservices requires this information to create the EMAN in RMS.