

**Safety Attribute Inspection (SAI) Data Collection Tool**  
**1.3.18 De-Icing Program (AW)**

**ELEMENT SUMMARY INFORMATION**

**Purpose of this Element** (certificate holder's responsibility):

- To ensure that aircraft are dispatched or released only when no frost, ice, or snow is adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces of the aircraft in accordance with its approved ground deicing/anti-icing program.

**Objective** (FAA oversight):

- To determine if the certificate holder's De-icing Program meets all applicable requirements of Title 14 of the Code of the Federal Regulations (14 CFR) and FAA policies.
- To determine if the certificate holder's De-icing Program incorporates the safety attributes.
- To identify any shortfalls in the certificate holder's De-icing Program.

**Specific Instructions:**

- Intentionally left blank

**SUPPLEMENTAL INFORMATION**

**Specific Regulatory Requirements (SRRs):**

- SRRs:
  - 121.135(a)(1)
  - 121.135(b)(1)
  - 121.135(b)(2)
  - 121.135(b)(3)
  - 121.629(c)(1)(i)
  - 121.629(c)(1)(ii)
  - 121.629(c)(1)(iii)
  - 121.629(c)(1)(iv)
  - 121.629(c)(2)
  - 121.629(c)(2)(i)
  - 121.629(c)(2)(ii)
  - 121.629(c)(2)(iii)
  - 121.629(c)(2)(iv)
  - 121.629(c)(2)(v)
  - 121.629(c)(2)(vi)
  - 121.629(c)(2)(vii)
  - 121.629(c)(3)
  - 121.629(c)(4)

**Related CFRs & FAA Policy/Guidance:**

- Related CFRs:  
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- FAA Policy/Guidance:  
Order 8900.1, Volume 6, Chapter 2, Section 26  
N 8900.19  
N 8900.22  
N 8900.26  
AC 120-60B

### SAI Section 1 - Procedures Attribute

**Objective:** Procedures, instructions, and information are documented methods for accomplishing a process. The certificate holder's policies should establish their compliance posture. Policies may be stand-alone statements, or they may be imbedded within procedures, instructions, or information regarding a particular regulatory requirement. The questions in this section of the data collection tool (DCT) are designed to assist the inspector in determining if the certificate holder has documented or prescribed methods of accomplishing the process requirements that provide answers to the associated questions regarding who, what, when, where, and how. This section contains policy questions, procedural questions, and instructional or informational questions pertaining to various types of certificate holder requirements such as actions, prohibitions, or resources (i.e., personnel, facilities, equipment, technical data, etc.).

#### Tasks

	To meet this objective, the inspector must accomplish the following tasks:
1.	Review the information listed in the Supplemental Information section of this DCT.
2.	Review the duties and responsibilities for management and other personnel identified by the certificate holder who accomplish the De-Icing Program.
3.	Review the certificate holder's De-Icing program to ensure it contains the policies, procedures, instructions and information necessary for personnel to perform their duties and responsibilities with a high degree of safety.

#### Questions

	To meet this objective, the inspector must answer the following questions:	
1.	Does the certificate holder's De-Icing program meet the specific regulatory and FAA policy requirements:	
1.1.	Does the certificate holder document a detailed description of how it is determined that conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft and that ground deicing/anti-icing operational procedures must be in effect? SRRs: 121.629(c)(1)(i)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.2.	Does the certificate holder identify who is responsible for deciding that ground deicing/anti-icing operational procedures must be in effect? SRRs: 121.629(c)(1)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.3.	Does the certificate holder document a detailed description of the procedures for implementing ground deicing/anti-icing operational procedures? SRRs: 121.629(c)(1)(iii)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.4.	Does the certificate holder document a detailed description of the specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground deicing/anti-icing operational procedures are in effect? SRRs: 121.629(c)(1)(iv)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.	Does the certificate holder's initial and annual recurrent ground training and testing for flight crewmembers and qualification for all other affected personnel specifically cover the following areas:	
1.5.1	Use of holdover times?	<input type="checkbox"/> Yes

	SRRs: 121.629(c)(2)(i)	<input type="checkbox"/> No, Explain
1.5.2	Aircraft ground deicing/anti-icing procedures? SRRs: 121.629(c)(2)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.3	Inspection procedures, check procedures and responsibilities? SRRs: 121.629(c)(2)(ii)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.4	Communications procedures? SRRs: 121.629(c)(2)(iii)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.5	Aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification? SRRs: 121.629(c)(2)(iv)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.6	How contamination adversely affects aircraft performance and flight characteristics? SRRs: 121.629(c)(2)(iv)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.7	Types and characteristics of deicing/anti-icing fluids? SRRs: 121.629(c)(2)(v)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.8	Cold weather preflight inspection procedures? SRRs: 121.629(c)(2)(vi)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.5.9	Techniques for recognizing contamination on the aircraft? SRRs: 121.629(c)(2)(vii)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.6.	Does the certificate holder provide holdover timetables and the procedures for the use of these tables by the certificate holder's personnel? SRRs: 121.629(c)(3)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.7.	Does the certificate holder document aircraft deicing/anti-icing procedures and responsibilities? SRRs: 121.629(c)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.8.	Does the certificate holder document pretakeoff check procedures and responsibilities? SRRs: 121.629(c)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.9.	Does the certificate holder document pretakeoff contamination check procedures and responsibilities? SRRs: 121.629(c)(4)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.10.	Does the certificate holder's De-Icing Program comply with the guidance contained in FAA Order 8900.1?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.11.	Does the certificate holder's De-Icing Program comply with the guidance contained in AC 120-60B?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.12.	Does the certificate holder's De-Icing program comply with the guidance contained in FAA Notice N 8900.19?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.13.	Does the certificate holder's De-Icing program comply with the guidance contained in FAA Notice N 8900.22?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.	Does the certificate holder's manual contain general policies for the De-Icing Program that comply with the SRRs? SRRs: 121.135(b)(1); 121.629(c)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
3.	Does the certificate holder's manual reference the appropriate Federal Aviation Regulations listed in the Supplemental Information section of this safety	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

	attribute inspection (SAI)? SRRs: 121.135(b)(3)	
4.	Does the certificate holder's manual contain the duties and responsibilities for personnel who will accomplish the De-Icing Program? SRRs: 121.135(b)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5.	Does the certificate holder's manual include instructions and information for personnel to meet the requirements of the De-Icing Program? SRRs: 121.135(a)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

<b>SAI Section 1 - Procedures Attribute Drop-Down Menu</b>	
1.	No procedures, policy, instructions or information specified.
2.	Procedures or instructions and information do not identify (who, what, when, where, how).
3.	Procedures, policy or instructions and information do not comply with CFR.
4.	Procedures, policy or instructions and information do not comply with FAA policy and guidance.
5.	Procedures, policy or instructions and information do not comply with other documentation (e.g., manufacturer's data, Jeppesen's Charts, etc.).
6.	Procedures, policy or instructions and information unclear or incomplete.
7.	Documentation quality (e.g., unreadable or illegible).
8.	Procedures, policy or instructions and information inconsistent across Certificate Holder manuals (FOM - Flight Operations Manual to GMM - General Maintenance Manual, etc.).
9.	Procedures, policy or instructions and information inconsistent across media (e.g., paper, microfiche, electronic).
10.	Resource requirements incomplete (personnel, facilities, equipment, technical data).
11.	Other.

### SAI Section 2 - Controls Attribute

**Objective:** Controls are checks and restraints designed into a process to ensure a desired result. The questions in this section of the DCT are designed to assist the inspector in determining if checks and restraints are designed into the process to ensure the desired result is achieved. Controls should be written into the system to ensure that the most important policies, procedures, or instructions and information will be followed.

Controls may be in the form of administrative controls, which are secondary or supplemental written procedures. Like written procedures, administrative controls also need to provide answers to questions regarding who, what, when, where, and how. Controls may also be in the form of engineered controls, such as automated features or mechanical actions or devices (i.e., safety devices, warning devices, etc.).

#### Tasks

To meet this objective, the inspector must accomplish the following tasks:

1. Review the control questions below.
2. Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the controls that it has documented.

#### Questions

	To meet this objective, the inspector must answer the following questions:	
1.	Are the following controls built into the De-Icing Program:	
1.1.	Is there a control or controls in place to ensure that the certificate holder and/or its vendors properly deice/anti-ice the aircraft prior to takeoff, preventing it from taking off with frost, ice, or snow adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.2.	Is there a control or controls in place to ensure that the certificate holder's personnel are adequately trained and qualified in its De-Icing Program ?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.3.	Is there a control or controls in place to ensure that the the certificate holder uses adequate storage facilities and dispensing equipment to conduct operations in icing conditions?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.	Does the certificate holder have a documented method for assessing the impact of any changes made to the controls in the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

<b>SAI Section 2 - Controls Attribute Drop-Down Menu</b>	
1.	No controls specified.
2.	Documentation for the controls do not identify (who, what, when, where, how).
3.	Controls incomplete.
4.	Controls could be circumvented.
5.	Controls could be unenforceable.
6.	Resource requirements incomplete (personnel, facilities, equipment, technical data).
7.	Other.



### SAI Section 3 - Process Measurement Attribute

**Objective:** Process measurements are used by the certificate holder to measure and to assess its processes, to identify and to correct problems or potential problems, and to make improvements to the processes. The questions in this section of the DCT are designed to assist the inspector in determining if the certificate holder measures or assesses information to identify, analyze, and document potential problems with the process. Process measurements are a certificate holder's internal evaluation or auditing of the most important policies, procedures, or instructions and information associated with an element.

To prevent the duplication of work, process measurements are most commonly addressed through a combination of auditing features contained in both the certificate holder's safety program/internal evaluation program (for operations and cabin safety-related issues) and the auditing function of the Continuous Analysis and Surveillance System (for airworthiness or maintenance/inspection-related issues). The director of safety and the quality assurance department often work together to accomplish this function for the certificate holder. This approach requires amendment of the safety program/internal evaluation program audit forms or checklists and the Continuous Analysis and Surveillance System audit forms or checklists to include the specific process measurements for each element.

#### Tasks

	To meet this objective, the inspector must accomplish the following tasks:
1.	Review the process measurement questions below.
2.	Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the process measurements that it has documented.

#### Questions

	To meet this objective, the inspector must answer the following questions:	
1.	Does the certificate holder's De-Icing Program include the following process measurements:	
1.1.	Is there a process measurement or process measurements that would reveal if the certificate holder and/or its vendors did not properly deice/anti-ice the aircraft prior to takeoff, allowing it to take off with frost, ice, or snow adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.2.	Is there a process measurement or process measurements that would reveal if the certificate holder's personnel were not adequately trained and qualified on its De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
1.3.	Is there a process measurement or process measurements that would reveal if the certificate holder did not use adequate chemical storage facilities and dispensing equipment to conduct operations in icing conditions?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.	Is there a process measurement or process measurements that would reveal if the certificate holder's policy, procedures, instructions, and information were not followed?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
3.	Does the certificate holder document its process measurements results?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

4.	Does the certificate holder use its process measurement results to improve its programs?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5.	Does the organization that conducts the process measurements have direct access to the person with responsibility for the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

<b>SAI Section 3 - Process Measurement Attribute Drop-Down Menu</b>	
1.	No process measurements specified.
2.	Documentation for the process measurements does not identify (who, what, when, where, how).
3.	Inability to identify negative findings.
4.	No provisions for implementing corrective actions.
5.	Ineffective follow-up to determine effectiveness of corrective actions.
6.	Resources requirements (personnel, facilities, equipment, technical data).
7.	Other.

### SAI Section 4 - Interfaces Attribute

**Objective:** Interfaces are used by the certificate holder to identify and manage the interactions between processes. The questions in this section of the DCT are designed to assist the inspector in determining whether or not interactions between the policies, procedures, or instructions and information associated with other independent processes within the certificate holder's organization are documented. Written policies, procedures, or instructions and information that are interrelated and located in different areas within the certificate holder's system must be consistent and complement each other. For the interfaces to be effectively managed, the certificate holder's system should identify and document the interfaces.

#### Tasks

	To meet this objective, the inspector must accomplish the following tasks:	
1.	Review the interfaces associated with the De-Icing Program that have been identified along with the individual questions in section 1, Procedures, of this DCT.	
2.	Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the interfaces that it has documented.	

#### Questions

	To meet this objective, the inspector must answer the following questions:	
	Note: The design job task items (JTIs) displayed with the questions in section 1, Procedures, of this DCT identify potential interfaces (by element number) for this element.	
1.	Does the certificate holder's system properly address the interfaces that are identified along with the questions in section 1, Procedures of this DCT?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
2.	Does the certificate holder document a method for assessing the impact of any changes to the associated interfaces within the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

<b>SAI Section 4 - Interfaces Attribute Drop-Down Menu</b>	
1.	No interfaces specified.
2.	The following interfaces not identified within the Certificate Holder's manual system:
3.	Interfaces listed are inaccurate.
4.	Specific location of interfaces not identified within the manual system.
5.	Other

### SAI Section 5 - Management Responsibility & Authority Attributes

**Objective:** The questions in this section of the DCT address the responsibility and authority of the process. They are designed to assist the inspector in determining if there is a clearly identifiable, qualified, and knowledgeable person who is responsible for the process, is answerable for the quality of the process, and has the authority to establish and modify the process. (The person with the authority may or may not be the person with the responsibility.)

#### Tasks

	To meet this objective, the inspector must accomplish the following tasks:
1.	Identify the person who has overall responsibility for the De-Icing Program.
2.	Identify the person who has overall authority for the De-Icing Program.
3.	Review the duties and responsibilities of the person(s) documented in the certificate holder's manual.
4.	Review the appropriate organizational chart.

#### Questions

	To meet this objective, the inspector must answer the following questions:	
1.	Does the certificate holder clearly identify who is responsible for the quality of the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain Name/Title:
2.	Does the certificate holder clearly identify who has authority to establish and modify the policies, procedures, instructions and information for the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain Name/Title:
3.	Does the certificate holder's manual include the duties and responsibilities of those who manage the work required by the De-Icing Program? SRRs: 121.135(b)(2)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
4.	Does the certificate holder's manual include instructions and information for those who manage the work required by the De-Icing Program? SRRs: 121.135(a)(1)	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5.	Does the certificate holder clearly and completely document the responsibility for this position?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
6.	Does the certificate holder clearly and completely document the authority for this position?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
7.	Does the certificate holder clearly and completely document their qualification standards for the person having responsibility for the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
8.	Does the certificate holder clearly and completely document its qualification standards for the person having authority to establish and modify the certificate holder's policies, procedures, instructions and information for the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
9.	Does the certificate holder clearly and completely document the procedures for delegation of authority for the De-Icing Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

<b>SAI Section 5 - Management Responsibility &amp; Authority Attributes Drop-Down Menu</b>
1. Not documented.
2. Documentation unclear.
3. Documentation incomplete.
4. Other.