Safety Attribute Inspection (SAI) Data Collection Tool 3.1.7 De-Icing Program (OP)

ELEMENT SUMMARY INFORMATION

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

To ensure that the certificate holder's De-Icing process prevents an aircraft from taking
off with frost, ice, or snow adhering to the wings, control surfaces, propellers, engine
inlets, or other critical surfaces of the aircraft.

Objective (FAA oversight):

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

Specific Instructions:

Intentionally left blank

SUPPLEMENTAL INFORMATION

Specific Regulatory Requirements (SRRs):

- SRRs:
 - 119.43(b)
 - 119.43(b)(1)
 - 119.43(b)(2)
 - 119.43(c)
 - 121.135(a)(1)
 - 121.135(b)(1)
 - 121.135(b)(2)
 - 121.135(b)(3)
 - 121.629
 - 121.629(a)
 - 121.629(b)
 - 121.629(c)
 - 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)(3)(i)

SRRs:

121.629(c)(3)(ii) 121.629(c)(3)(iii) 121.629(c)(4) 121.629(d) A.023

Related CFRs & FAA Policy/Guidance:

• Related CFRs:

Intentionally left blank

• FAA Policy/Guidance:

FAA Order 8900.1, Volume 3, Chapter 27

AC 120-58

AC 120-60B

AC 120-89

N 8900.19

N 8900.22

N 8900.26

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.).

uala	uala, etc.).			
Tasi	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 process.			
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 FAA policy requirements:	c regulatory and	
1.1.	Does the certificate holder's approved ground deicing/anti-icing include at least a detailed description of: SRRs: 121.629(c)	program	
1.1.1	How the certificate holder determines that conditions are such the snow may reasonably be expected to adhere to the aircraft and deicing/anti-icing operational procedures must be in effect? SRRs: 121.629(c)(1)(i) Related Design JTIs: 1. Check that the Certificate Holder's manual has instruction information ensuring that no person will dispatch an aircraft the opinion of the pilot in command icing conditions are met that might adversely affect the safety of the flight. Sources: 121.135(a)(1); 121.629(a) Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OF); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP) 2. Check that the Certificate Holder's manual has instruction information ensuring that no person will release an aircraft opinion of the pilot in command icing conditions are expetited that might adversely affect the safety of the flight Sources: 121.135(a)(1); 121.629(a)	I that ground No, Explain Not Applicable Noraft, when in expected or P); 3.1.13(OP); I cons or raft, when in the pected or met	÷
	opinion of the pilot in command icing conditions are exp that might adversely affect the safety of the flight	pected or met	

3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

3. Check that the Certificate Holder's manual has instructions or information ensuring that no person will dispatch an aircraft, when in the opinion of the aircraft dispatcher icing conditions are expected or met that might adversely affect the safety of the flight

Sources: 121.135(a)(1); 121.629(a)

Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP)

4. Check that the Certificate Holder's manual has instructions or information ensuring that no person will release an aircraft, when in the opinion of the person with authority to release the aircraft under supplemental operations, icing conditions are expected or met that might adversely affect the safety of the flight.

Sources: 121.135(a)(1); 121.629(a)

Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

5. Check that the Certificate Holder's approved ground deicing/anti-icing program includes procedures that contain a detailed description of how the Certificate Holder determines that conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft.

Sources: 121.629(c)(1)(i)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

6. Check that the Certificate Holder's approved ground deicing/anti-icing program includes procedures that contain a detailed description of how the Certificate Holder determines that conditions are such that ground deicing/anti-icing operational procedures must be in effect.

Sources: 121.629(c)(1)(i)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP); 7.1.4(OP)

7. Check that the Certificate Holder's approved ground deicing/anti-icing program includes procedures that contain a detailed description of who is responsible for deciding that ground deicing/anti-icing operational procedures must be in effect.

Sources: 121.629(c)(1)(ii)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP); 7.1.4(OP)

8. Check that the Certificate Holder's approved ground deicing/anti-icing program includes a detailed description of the procedures for implementing ground deicing/anti-icing operational procedures

Sources: 121.629(c)(1)(iii)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

9. Check that the Certificate Holder's approved ground deicing/anti-icing program includes 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.

Sources: 121.629(c)(1)(iv)

		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP); 7.1.4(OP)	
1.1.2	proced	responsible for deciding that ground deicing/anti-icing operational ures must be in effect? 121.629(c)(1)(ii)	Yes No, Explain Not Applicable
1.1.3	proced	ocedures for implementing ground deicing/anti-icing operational ures? 121.629(c)(1)(iii)	☐ Yes ☐ No, Explain ☐ Not Applicable
1.1.4	respon icing of	ecific duties and responsibilities of each operational position or group sible for getting the aircraft safely airborne while ground deicing/antiperational procedures are in effect 121.629(c)(1)(iv)	Yes No, Explain Not Applicable
1.1.5	and qu SRRs:	and annual recurrent ground training and testing for flight crewmembers alification for all other affected personnel? 121.629(c)(2) d Design JTIs: Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the use of holdover times. Sources: 121.629(c)(2)(i) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of	Yes No, Explain Not Applicable
	3.	the approved program and each person's responsibilities and duties under the approved program, specifically covering the aircraft deicing/anti-icing procedures, including inspection and check procedures and responsibilities. The training must include both general procedures and the specific requirements (differences) of each make, model, series, and variant of aircraft. Sources: 121.629(c)(2)(ii) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) Check that the Certificate Holder's approved ground deicing/anti-icing	
	G.	program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering communications procedures. Sources: 121.629(c)(2)(iii) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)	
	4.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and how contamination adversely affects aircraft	

performance and flight characteristics.

Sources: 121.629(c)(2)(iv)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)

5. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the types and characteristics of deicing/anti-icing fluids.

Sources: 121.629(c)(2)(v)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)

6. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering cold weather preflight inspection procedures.

Sources: 121.629(c)(2)(vi)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)

7. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the techniques for recognizing contamination on the aircraft.

Sources: 121.629(c)(2)(vii)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)

8. Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the use of holdover times.

Sources: 121.629(c)(2)(i)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

9. Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the aircraft deicing/anti-icing procedures, including inspection and check procedures and responsibilities. The training must include both general procedures and the specific requirements (differences) of each make, model, series, and variant of aircraft.

Sources: 121.629(c)(2)(ii)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

10. Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically

		covering communications procedures.	
		Sources: 121.629(c)(2)(iii)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
	11.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and how contamination adversely affects aircraft performance and flight characteristics.	
		Sources: 121.629(c)(2)(iv)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
	12.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the types and characteristics of deicing/anti-icing fluids. Sources: 121.629(c)(2)(v)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
	13.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering cold weather preflight inspection procedures.	
		Sources: 121.629(c)(2)(vi)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
	14.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the techniques for recognizing contamination on the aircraft. <i>Sources:</i> 121.629(c)(2)(vii) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
1.1.6		rtificate holder's holdover timetables and the procedures for the use of ables by the certificate holder's personnel?	☐ Yes ☐ No, Explain
		121.629(c)(3)	☐ Not Applicable
		d Design JTIs:	
	1.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes the Certificate Holder's holdover timetables.	
		Sources: 121.629(c)(3)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP)	

	2.	Check that the Certificate Holder's approved ground deicing/anti-icing program includes the Certificate Holder's procedures for the use of the holdover timetables by the Certificate Holder's personnel. Sources: 121.629(c)(3) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.3(OP); 4.2.3(OP)	
	3.	Check that the Certificate Holder's program includes procedures for flight crewmembers to increase or decrease the determined holdover time in changing conditions. Sources: 121.629(c)(3)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(AW); 2.1.5(OP); 3.1.3(OP); 4.2.3(OP)	
	4.	Check that the Certificate Holder's program provides that takeoff after exceeding any maximum holdover time in the Certificate Holder's holdover timetable is permitted only when at least one of the following conditions exists: (i)A pretakeoff contamination check, as defined in paragraph (c)(4) of this section, determines that the wings, control surfaces, and other critical surfaces, as defined in the Certificate Holder's program are free of frost, ice, or snow. (ii)It is otherwise determined by an alternate procedure approved by the Administrator in accordance with the Certificate Holder's approved program that the wings, control surfaces, and other critical surfaces, as defined in the Certificate Holder's program, are free of frost, ice, or snow. (iii)The wings, control surfaces, and other critical surfaces are redeiced and a new holdover time is determined. Sources: 121.629(c)(3)(i); 121.629(c)(3)(ii); 121.629(c)(3)(iii) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 4.2.14(AW); 4.2.3(OP); 4.2.6(OP)	
1.1.7		deicing/anti-icing procedures and responsibilities?	Yes
		121.629(c)(4)	☐ No, Explain ☐ Not Applicable
		d Design JTIs: Check that the Certificate Holder's program includes aircraft deicing/anti-icing procedures.	
		Sources: 121.629(c)(4)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(OP)	
	2.	Check that the Certificate Holder's program includes aircraft deicing/anti-icing responsibilities.	
		Sources: 121.629(c)(4)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(AW); 2.1.5(OP)	
	3.	Check that the Certificate Holder's program includes pretakeoff check procedures.	
		Sources: 121.629(c)(4)	
		Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(AW); 2.1.5(OP)	
	4.	Check that the Certificate Holder's program includes pretakeoff check responsibilities.	

	Sources: 121.629(c)(4)	
	Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(OP); 2.1.5(OP)	
	 Check that the Certificate Holder's program includes pretakeoff contamination check procedures. 	
	Sources: 121.629(c)(4)	
	Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(AW); 2.1.5(OP)	
	 Check that the Certificate Holder's program includes pretakeoff contamination check responsibilities. 	
	Sources: 121.629(c)(4)	
	Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP)	
1.1.8	Pretakeoff check procedures and responsibilities?	Yes
	SRRs: 121.629(c)(4)	☐ No, Explain
		☐ Not Applicable
1.1.9	Pretakeoff contamination check procedures and responsibilities?	Yes
	SRRs: 121.629(c)(4)	☐ No, Explain
		☐ Not Applicable
1.1.10	Procedures for flight crewmembers to increase or decrease the determined	Yes
	holdover time in changing conditions?	No, Explain
	SRRs: 121.629(c)(3)	☐ Not Applicable
1.2.	Are the certificate holder's holdover times supported by data acceptable to the	Yes
	Administrator?	☐ No, Explain
	SRRs: 121.629(c)(3)	☐ Not Applicable
1.3.	Does the certificate holder's ground deicing/anti-icing initial and annual recurrent ground training and testing for flight crewmembers and qualifications	
	for all other affected personnel (e.g., aircraft dispatchers, ground crews,	
	contract personnel)cover items concerning:	
	SRRs: 121.629(c)(2)	
1.3.1	The specific requirements of the approved program and each person's	Yes
	responsibilities and duties under the approved program?	☐ No, Explain
	SRRs: 121.629(c)(2)	☐ Not Applicable
1.3.2	The use of holdover times?	Yes
	SRRs: 121.629(c)(2)(i)	☐ No, Explain
		Not Applicable
1.3.3	Aircraft deicing/anti-icing procedures, including inspection and check	Yes
	procedures and responsibilities?	No, Explain
	SRRs: 121.629(c)(2)(ii)	☐ Not Applicable
1.3.4	Communications procedures?	Yes
	SRRs: 121.629(c)(2)(iii)	☐ No, Explain
		☐ Not Applicable
1.3.5	Aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical	Yes
	area identification, and how contamination adversely affects aircraft performance and flight characteristics?	☐ No, Explain ☐ Not Applicable
	SRRs: 121.629(c)(2)(iv)	☐ INOL Applicable
	· · · · · ·	<u> </u>

1.3.6	Types and characteristics of deicing/anti-icing fluids?	Yes
	SRRs: 121.629(c)(2)(v)	☐ No, Explain
		☐ Not Applicable
1.3.7	Cold weather preflight inspection procedures?	Yes
	SRRs: 121.629(c)(2)(vi)	☐ No, Explain
		☐ Not Applicable
1.3.8	Techniques for recognizing contamination on the aircraft?	Yes
	SRRs: 121.629(c)(2)(vii)	☐ No, Explain
		☐ Not Applicable
1.4.	Does the certificate holder who is operating without an approved ground deicing/anti-icing program, include in its operations specifications a requirement that:	
	SRRs: 121.629(d); A.023	
	Related Design JTIs:	
	 If the Certificate Holder operates under this section without a program as required in paragraph (c) of this section, check that it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. 	
	Sources: 121.629(d)	
	Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.1(AW); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
	2. If the Certificate Holder operates under this section without a program as required in paragraph (c) of this section, check that it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. This check must be accomplished from outside the aircraft.	
	Sources: 121.629(d)	
	Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.1(AW); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)	
	3. If the Certificate Holder to operates under this section without a program as required in paragraph (c) of this section, check that it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. The check must occur within five minutes prior to beginning takeoff. Sources: 121.629(d) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(OP); 3.2.1(OP); 3.2.1(OP); 4.2.1(OP); 4.2	
1.4.1	Any time conditions are such that frost, ice, or snow may reasonably be	Yes
	expected to adhere to the aircraft, no aircraft will take off unless it has been	☐ No, Explain

	checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow SRRs: 121.629(d)	☐ Not Applicable
1.4.2	The check must occur within five minutes prior to beginning takeoff? SRRs: 121.629(d)	Yes No, Explain Not Applicable
1.4.3	This check must be accomplished from outside the aircraft? SRRs: 121.629(d)	Yes No, Explain Not Applicable
1.5.	Does the certificate holder's De-Icing Program include instructions and information that prohibit dispatch, release, or continued operation of an aircraft when in the opinion of the PIC or aircraft dispatcher (domestic and flag operations only), icing conditions are expected or met that might adversely affect the safety of the flight? SRRs: 121.629(a)	Yes No, Explain Not Applicable
1.6.	Does the certificate holder s De-Icing Program include instructions and information that prohibit anyone from taking off an aircraft when frost, ice, or snow is adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces of the aircraft or when the takeoff would not be in compliance with 14 CFR, section 121.629 (c)? SRRs: 121.629(b)	Yes No, Explain Not Applicable
1.7.	Does the certificate holder's De-Icing Program include instructions and information that prohibit dispatch, release, or take off an aircraft any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, unless the certificate holder has an approved ground deicing/anti-icing program in its operations specifications and unless the dispatch, release, and takeoff comply with that program? SRRs: 121.629(c)	Yes No, Explain Not Applicable
1.8.	If the certificate holder has a proposed/approved ground deicing/anti-icing program, does it provide that takeoff after exceeding any maximum holdover time in the holdover timetable be permitted only when at least one of the following conditions exists: SRRs: 121.629(c)(3)	
1.8.1	A pretakeoff contamination check determines that the wings, control surfaces, and other critical surfaces, as defined in the approved ground deicing/anti-icing program, are free of frost, ice, or snow? SRRs: 121.629(c)(3)(i)	Yes No, Explain Not Applicable
1.8.2	It is otherwise determined by an alternate procedure in the approved deicing/anti-icing program that the wings, control surfaces, and other critical surfaces, are free of frost, ice, or snow? SRRs: 121.629(c)(3)(ii)	Yes No, Explain Not Applicable
1.8.3	The wings, control surfaces, and other critical surfaces are re-deiced and a new holdover time is determined? SRRs: 121.629(c)(3)(iii)	Yes No, Explain Not Applicable
1.9.	Does the certificate holder's De-Icing process comply with the guidance contained in FAA Order 8900.1, Volume 3, Chapter 27?	☐ Yes ☐ No, Explain
1.10.	Does the certificate holder's De-Icing process comply with the guidance contained in AC 120-58?	Yes No, Explain Not Applicable

1.11.	Does the certificate holder's De-Icing process comply with the guidance contained in AC 120-60B, paragraphs 5-7?	☐ Yes ☐ No, Explain
1.12.	Does the certificate holder's De-Icing process comply with the guidance contained in AC 120-89, paragraphs 5 and 6?	☐ Yes ☐ No, Explain ☐ Not Applicable
1.13.	Does the certificate holder's De-Icing process comply with the guidance contained in FAA Notice N 8900.19?	☐ Yes ☐ No, Explain
1.14.	Does the certificate holder's De-Icing process comply with the guidance contained in FAA Notice N 8900.22?	☐ Yes ☐ No, Explain
1.15.	Does the certificate holder s manual contain the required references to, or excerpts from, the operations specifications listed in the Supplemental Information section of this safety attribute inspection (SAI)? SRRs: 119.43(b); A.023	Yes No, Explain
1.16.	If the certificate holder's manual includes excerpts from its operations specifications, are the excerpts clearly identified as part of the operations specifications? SRRs: 119.43(b)(1)	Yes No, Explain Not Applicable
1.17.	Does the certificate holder s manual require compliance with operations specifications listed in the Supplemental Information section of this safety attribute inspection (SAI)? SRRs: 119.43(b)(2)	Yes No, Explain
1.18.	Does the certificate holder s De-Icing process contain a method for keeping all persons engaged in its operations informed of the provisions of the operations specifications listed in the Supplemental Information section of this safety attribute inspection (SAI)?	Yes No, Explain
	SRRs: 119.43(c)	
2.	Does the certificate holder's manual contain general policies for the De-Icing process that comply with the SRRs? SRRs: 121.135(b)(1); 121.629	☐ Yes ☐ No, Explain
	Related Design JTIs:	
	 Check that the Certificate Holder's manual has a policy stating that no person may dispatch an aircraft, when in the opinion of the pilot in command icing conditions are expected or met that might adversely affect the safety of the flight. Sources: 121.135(b)(1); 121.629(a) Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP) 	
	2. Check that the Certificate Holder's manual has a policy stating that no person may release an aircraft, when in the opinion of the pilot in command icing conditions are expected or met that might adversely affect the safety of the flight Sources: 121.135(b)(1); 121.629(a) Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP);	
	 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP) 3. Check that the Certificate Holder's manual has a policy stating that no person may dispatch an aircraft, when in the opinion of the aircraft dispatcher icing conditions are expected or met that might adversely affect the safety of the flight. Sources: 121.135(b)(1); 121.629(a) 	

```
Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP)
```

4. Check that the Certificate Holder's manual has a policy stating that no person may release an aircraft, when in the opinion of the person with authority to release the aircraft under supplemental operations, icing conditions are expected or met that might adversely affect the safety of the flight.

Sources: 121.135(b)(1); 121.629(a)

Interfaces: 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

5. Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the wings, or when the takeoff would not be in compliance with paragraph (c) of this section.

Sources: 121.135(b)(1); 121.629(b)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

6. Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the control surfaces, or when the takeoff would not be in compliance with paragraph (c) of this section.

Sources: 121.135(b)(1); 121.629(b)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

7. Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the, propellers, or when the takeoff would not be in compliance with paragraph (c) of this section.

Sources: 121.135(b)(1); 121.629(b)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

8. Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the engine inlets or when the takeoff would not be in compliance with paragraph (c) of this section.

Sources: 121.135(b)(1); 121.629(b)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

9. Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to other critical surfaces of the aircraft or when the takeoff would not be in compliance with paragraph (c) of this section.

Sources: 121.135(b)(1); 121.629(b)

Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)

10. Check that the Certificate Holder's manual has a policy to ensure that no person may dispatch, release, or takeoff an aircraft any time conditions are such that frost, ice, or snow may reasonably be

	expected to adhere to the aircraft, unless the dispatch, release, and the takeoff comply with the approved ground deicing/anti-icing program in the operations specifications. Sources: 121.629(c) Interfaces: 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP)	
3.	Does the certificate holder's manual reference the appropriate Federal Aviation Regulations listed in the Supplemental Information section of this safety attribute inspection (SAI)? SRRs: 121.135(b)(3)	Yes No, Explain
4.	Does the certificate holder's manual contain the duties and responsibilities for personnel who will accomplish the De-Icing process? SRRs: 121.135(b)(2)	Yes No, Explain
5.	Does the certificate holder's manual include instructions and information for personnel to meet the requirements of the De-Icing process? SRRs: 121.135(a)(1)	Yes No, Explain

SAI Section 1 - Procedures Attribute Drop-Down Menu

- 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:		
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 process:		
1.1.	Is there a control or controls in place to ensure that the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of frost, ice, and snow at the final checkpoint?	☐ Yes ☐ No, Explain	
1.2.	Is there a control or controls in place to ensure that the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of frost, ice, and snow at takeoff?	☐ Yes ☐ 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 process?	☐ Yes ☐ No, Explain	

SAI Section 2 - Controls Attribute Drop-Down Menu	
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 assess its processes, to identify and 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 process include the following process measurements:	
1.1.	Is there a process measurement or process measurements that would identify if the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces were not free of frost, ice, and snow at the final checkpoint?	☐ Yes ☐ No, Explain
1.2.	Is there a process measurement or process measurements that would identify if the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces were not free of frost, ice, and snow at takeoff?	Yes No, Explain
2.	Is there a process measurement or process measurements that would reveal if the certificate holder s policy, procedures, instructions, and information contained in its manual were not followed?	☐ Yes ☐ No, Explain
3.	Does the certificate holder document its process measurement results?	☐ Yes ☐ No, Explain
4.	Does the certificate holder use its process measurement results to improve its programs?	☐ Yes ☐ No, Explain
5.	Does the organization that conducts the process measurements have direct	Yes

access to the person with responsibility for the De-Icing process?	☐ No, Explain

SAI Section 3 - Process Measurement Attribute Drop-Down Menu

- 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:		
To meet this objective, the inspector must accomplish the following tasks:	Tasks	
1.5 most and objective, the inspected mast about phone the following table.		
1. Review the interfaces associated with the De-Icing process that have been identified along with individual questions in section 1, Procedures, of this DCT.	the	
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 individual questions in section 1, Procedures, of this DCT?	☐ Yes ☐ 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 process?	Yes No, Explain

SAI Section 4 - Interfaces Attribute Drop-Down Menu

- 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 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.)

so the person that 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 process.	
2.	Identify the person who has overall authority for the De-Icing process.	
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 process?	Yes 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 process?	Yes 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 process? SRRs: 121.135(b)(2)	Yes No, Explain
4.	Does the certificate holder's manual include instructions and information for those who manage the work required by the De-Icing process? SRRs: 121.135(a)(1)	Yes No, Explain
5.	Does the certificate holder clearly and completely document the responsibility for this position?	☐ Yes ☐ No, Explain
6.	Does the certificate holder clearly and completely document the authority for this position?	Yes No, Explain
7.	Does the certificate holder clearly and completely document its qualification standards for the person having responsibility for the De-Icing process?	Yes No, Explain
8.	Does the certificate holder clearly and completely document its qualification standards for the person having the authority to establish and modify the certificate holder's policies, procedures, instructions, and information for the Delcing process?	Yes No, Explain
9.	Does the certificate holder clearly and completely document the procedures for delegation of authority for the De-Icing process?	Yes No, Explain

SAI Section 5 - Management Responsibility & Authority Attributes Drop-Down Menu

- 1. Not documented.
- 2. Documentation unclear.
- 3. Documentation incomplete.
- 4. Other.