

**11 DECEMBER 2002**



**Operations**

**ADVERSE WEATHER PROCEDURES**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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(Captain Jessica A. Mathews)  
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Certified by: 354 OG/CC  
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This instruction implements AFD 10-2, *Readiness*. This instruction establishes procedures for implementation during extreme cold temperatures and adverse weather conditions at Eielson AFB. Its purpose is to limit the exposure of base personnel, equipment, and aircraft to potentially dangerous environments. It applies to all units assigned to the 354th Fighter Wing. This publication is available digitally on the 354th Fighter Wing webpage at: <https://intraweb.eielson.af.mil/pubs/new354fwpubs.htm>. If you lack access, contact 354 CS/SCBPE.

**SUMMARY OF REVISIONS**

This document is substantially revised and must be completely reviewed. Security Forces and the Operations Group have made changes that more closely reflect their operations. "Law Enforcement Elements" have now been changed to "Police Services." The temperatures at which flying and ground operations cease have been more clearly defined to reflect standardization throughout 11 AF.

**1. General.**

1.1. The extent to which the wing commander may implement these procedures is dependent on such variables as real-world mission tasking, extent of the bad weather, the ability to respond to changing situations, personnel and equipment safety, resource availability, and security. Each base organization will have different meanings or ideas of being "mission essential" in their respective taskings; therefore, there will be cases where some organizations will implement a certain action, while others will not. In all cases, the wing commander has the prerogative to implement, modify, or selectively revoke provisions of this instruction as appropriate for mission accomplishment and safety.

1.2. Adverse weather conditions are defined as environmental conditions such as heavy snow, extremely cold temperature, thunderstorms, tornadic activity, etc. that may have a negative impact on mission accomplishment or personnel/equipment safety. The wing commander, through the group

commanders, will implement the following procedures as required when the official Eielson AFB weather observation/forecast indicates adverse weather conditions are predicted to affect the Eielson AFB area and/or scheduled range space.

## 2. Responsibilities :

2.1. The Operations Support Squadron Weather Flight (OSS/OSW) will notify the Command Post (CP) and Security Forces Control Center when adverse weather is forecasted for Eielson AFB and/or the local flying area. OSS/OSW will provide weather updates to the CP NLT 1400L daily and notify the CP immediately if unexpected adverse weather/extreme temperatures are forecasted or observed.

2.2. During periods of adverse weather conditions, Security Forces Squadron will increase assessments of the Richardson Highway driving conditions, within jurisdictional boundaries. Upon completion, the Security Forces Control Center will update the CP. When adverse weather conditions are forecast/observed, CP will brief the wing commander and initiate an executive session via conference call, if so directed.

2.3. The wing commander may:

2.3.1. During periods of adverse weather, through the group commanders, direct one or more of the following options:

2.3.1.1. Liberal work departure.

2.3.1.2. Delayed-Staggered reporting for duty to reduce traffic congestion.

2.3.1.3. Reduce manning levels to mission-essential only.

2.3.1.4. Provide CP with dismissal reference time.

2.3.1.5. Direct the CP to:

2.3.1.5.1. Provide the 11 AF/CC with detailed information regarding limiting factors (LIMFACS) resulting from the adverse weather. Also, provide information on conditions that create immediate life-threatening situations or severely hamper real-world tasking to which the 354th Fighter Wing is responding as well as an up-to-date status of the base in general and personnel in particular.

2.3.1.5.2. Implement pyramid notification system.

2.3.1.5.3. Through Public Affairs, publicize adverse weather restrictions/precautions for update to ECTV and/or television and/or local radio stations.

2.3.2. When the observed temperature at Eielson AFB is  $-40$  degrees F ECT or colder, CP will, under the wing commander's direction:

2.3.2.1. Provide the 11 AF/CC with detailed information regarding LIMFACS resulting from the extreme cold temperatures/adverse weather. Also, provide information on conditions that create immediate life-threatening situations or severely hamper real-world tasking to which the 354th Fighter Wing is responding as well as an up-to-date status of the base in general and personnel in particular.

2.3.3. When the observed temperature at Eielson AFB is  $-50$  degrees F ambient or colder, consider mission-essential manning levels for all wing organizations.

2.4. Group Commanders will (reference cold stress conditions in [Attachment 3](#)):

2.4.1. When observed temp at Eielson AFB is 40 degrees F to 0 degrees F ECT (MODERATE):

2.4.1.1. Ensure no outdoor operations with water (vehicle/aircraft washing, etc.).

2.4.1.2. Institute 50 min work/10 min warming cycle.

2.4.1.3. Ensure personnel avoid heavy sweating and change wet clothes immediately.

2.4.2. When observed temp at Eielson AFB is –1 degrees F to –20 degrees F ECT (CAUTION):

2.4.2.1. Follow all MODERATE procedures.

2.4.2.2. Institute a 40 min work/20 min warming cycle.

2.4.2.3. Enforce the mandatory wear of gloves and hat.

2.4.3. When observed temp at Eielson AFB is –21 degrees F to –39 degrees F ECT (DANGER):

2.4.3.1. Follow CAUTION procedures.

2.4.3.2. Institute a 30 min work/30 min warming cycle.

2.4.3.3. Implement the “buddy system”.

2.4.4. When observed temp at Eielson AFB is –40 degrees F ECT or colder (EXTREME):

2.4.4.1. Follow DANGER procedures.

2.4.4.2. All outside flight line maintenance and flying operations require WG/CC or OG/CC approval.

2.5. Operations Group Commander will:

2.5.1. When observed temp at Eielson AFB falls below –40 degrees F ECT (EXTREME):

2.5.1.1. Allow airborne aircraft to continue with planned mission but will return with enough fuel to hold on the ground and expect slower than normal de-arm operations.

2.5.1.2. Travel to Yukon/Oklahoma Ranges will cease. Personnel already down-range will return to Eielson AFB as soon as practical by the same mode of transportation used to get there.

2.5.1.3. Scheduled Blair Lakes crew changes will continue. The primary mode of transportation will be by helicopter.

2.5.1.4. Eielson AFB Range Job Control, call sign “Tracker”, will monitor the 353 CTS land mobile radio net until all contractor personnel down-range have returned to base.

2.5.2. When the observed or forecast temp for the next 24 hours is minus 50 degrees F ECT or colder in special use airspace (SUA)/military training routes (MTRs) owned or scheduled by Eielson AFB:

2.5.2.1. 354 FW aircraft will not operate over these areas.

2.5.2.2. The 354 FW will close effected airspace to all users.

2.5.2.3. Equipment and vehicles will not be driven except in an emergency, unless they are kept in a warm garage, the time outside is less than 1 hour, and the vehicle is returned to a

warm garage.

2.5.2.4. Travel to and from the ranges is only authorized for emergencies and requires FW/CC or OG/CC approval.

2.6. Mission Support Group Commander (MSG/CC) will:

2.6.1. Through the Logistics Readiness Squadron Commander (LRS/CC):

2.6.1.1. When the temperature is –50 degrees F ambient or colder:

2.6.1.1.1. Provide capability to transport mission-essential military and civilian personnel living or temporarily residing on base to and from work.

2.6.1.1.2. Provide Logistics Readiness Control Center capability.

2.6.1.1.3. Determine personnel requirements based on level of operations maintained by the supported organizations.

2.6.1.1.4. Maintain a 24-hour capability for ordering and delivering priority parts.

2.6.1.1.5. Maintain a 24-hour capability for fuels.

2.6.2. Through the Mission Support Squadron Commander (MSS/CC):

2.6.2.1. The Civilian Personnel Office (DPC) will remain open until MSS/CC closes nonessential activities during adverse weather/extreme cold temperature conditions.

2.6.2.2. Family Support Center (DPF), at –40 degrees F ECT or colder, will:

2.6.2.2.1. Activate the Community Services Information Line (377-4357).

2.6.2.2.2. Provide standby for the emergency issue of food from the Family Support Center.

2.6.2.3. At –50 degrees F ambient or colder, a liberal leave policy will be in effect.

2.6.3. Through the Services Squadron Commander (SVS/CC):

2.6.3.1. Food Service. In the event adequate mess attendant personnel are not available, a temporary military work detail, in the ranks of E-4 and below to sustain essential messing, will be instituted. At –50 degrees F ambient or colder, mission-essential military and civilian personnel are allowed to eat in the dining facility.

2.6.3.2. Lodging. At –50 degrees F ambient or colder, quarters will be set aside for housing mission-essential civilian personnel, such as power plant operators, if necessary.

2.6.4. Through the Security Forces Squadron Commander (SFS/CC), implement the procedures listed below (each branch within SFS will continue to provide service during extremely cold temperatures except as otherwise noted). SFS/CC may modify the below standards as needed to mitigate existing threat or mission needs.

2.6.4.1. Everyone in the 354 SFS is assumed essential with the following exceptions:

2.6.4.1.1. Combat Arms Section: At –40 degrees F ECT or colder, or at the determination of the range official, classes will be canceled or released. When classes are canceled, instructors will notify affected unit schedulers and reschedule students for a later date. When classes are canceled due to inclement weather, instructors will direct students to

contact their duty sections for work status determination.

2.6.4.1.2. Police Services. All base patrols remain manned and on standby status in Building 2222 in the Break Room unless dispatched.

2.6.4.1.3. Security Operations. All posts remain manned and operational during extreme cold temperatures with respect to the current force protection condition and posting priority chart.

2.6.4.1.4. Individuals not on duty will remain on telephone standby.

2.6.5. The Communications Squadron Commander (CS/CC) will:

2.6.5.1. At temperatures of –40 degrees F ECT or colder:

2.6.5.1.1. Cease all outside activity, except in cases of extreme emergency.

2.6.5.1.2. Unless otherwise directed, all preventative maintenance requiring travel from the work center will be deferred. If dispatched, the buddy system (see [Attachment 1](#)) will be used and teams will respond with arctic clothing and deploy with land mobile radios and cell phone.

2.6.5.1.3. Unless otherwise directed, all maintenance requiring off-base travel will be deferred. If dispatched, the buddy system will be used and teams will respond with arctic clothing and deploy with land mobile radios and cell phone.

2.6.5.1.4. Cancel scheduled information management staff assistance visits and training sessions.

2.6.5.1.5. Initiate Centralized Base Information Transfer Center (BITC) mail distribution.

2.6.5.2. At temperatures of –50 degrees F ambient or colder, upon notification from MSG/CC initiate recall and reduce manning to mission-essential personnel only.

2.7. Maintenance Group Commander (MXG/CC) will:

2.7.1. Through the Maintenance Squadron Commander (MXS/CC) or Maintenance Supervision (MXS/LGM):

2.7.1.1. At –40 degrees F ECT or colder:

2.7.1.1.1. De-arm crews and personnel working outside to recover the aircraft will employ a 15 minute work/15 minute warm cycle.

2.7.1.2. At –50 degrees F ECT or colder:

2.7.1.2.1. Approve dispatch of AGE heaters off of the flight line to support all possible organizational requests, ensuring enough assets are maintained available to support flight line operations.

2.7.2. Through the Maintenance Operations Squadron Commander (MOS/CC) at –40 degrees F ECT or colder:

2.7.2.1. Cancel all outdoors ancillary training.

2.7.2.2. Cancel all outdoors Aircraft Maintenance Qualification Program (AMQP) courses.

2.7.2.3. Cancel all outdoors Field Training Detachment (FTD) courses.

2.8. The Medical Group Commander (MDG/CC) will:

2.8.1. At -50 degrees F ambient or colder:

2.8.1.1. Close clinic with the exception of ambulance service and Primary Care Manager (PCM) and/or required support staff for acute needs. Advice line and PCM telephone triage will be maintained along with ambulance services.

2.8.1.2. Reduce manning to mission-essential only.

2.8.1.3. Notify patients of canceled appointments due to closure and reschedule appointments.

2.8.1.4. Cancel all non-mission-essential meetings and educational programs.

2.9. Squadron commanders will:

2.9.1. Determine mission-essential personnel and ensure they are available when minimum manning has been declared.

2.9.2. Brief all squadron personnel NLT 30 September of each year on the provisions of this instruction, and FWI 48-102.

2.9.3. Ensure building custodians are appointed to monitor unoccupied facilities to reduce property loss ([Attachment 2](#)).

2.9.4. Develop respective adverse weather checklists/operating procedures as required.

2.9.5. Ensure procedures that maximize efforts to rotate early dismissal/delayed reporting of assigned personnel, to include civilian employees, are established and enforced.

2.9.6. Ensure members released from duty remain on telephone standby for the remainder of their regularly scheduled duty.

2.9.7. Ensure government vehicle operators and passengers have required adverse weather clothing and survival kits in possession when leaving Eielson AFB during periods of actual or forecast adverse weather conditions.

JAN-MARC JOUAS, Colonel, USAF  
Commander

## Attachment 1

### GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

#### *Terms*

**Adverse Weather Conditions**—Environmental conditions such as poor visibility, heavy snow, blizzards, extremely cold temperature, etc. that may have a negative impact on mission accomplishment or personnel/equipment safety.

**Ambient Temperature**—Base Weather Station reported/forecasted air temperature.

**Blizzard**—A combination of high winds and heavy snowfall. Low visibility and wind chill conditions are potential hazards. Eielson can expect calm winds during arctic cold outbreaks when temperatures are –30 degrees F (ambient) or colder.

**Buddy System**—System consisting of at least two individuals working together and/or traveling off-base together for added safety when temperatures are –40 degrees F (ECT) or colder. Individuals will be equipped/wearing arctic weather gear and have in their possession either a Land Mobile Radio (LMR) or cellular phone for emergency use if required.

**Delayed-Staggered Duty Reporting**—Condition where identified personnel are authorized late-duty reporting due to adverse weather conditions. Unit commanders identify affected personnel and establish duty reporting times.

**Equivalent Chill Temperature (ECT)**—Index that takes the current ambient air temperature and wind speed to provide the apparent temperature at which an equal amount of cooling of exposed human flesh occurs with no wind. ECT only applies to exposed human flesh. The weather flight measures ECT by using the current ambient temperature and the 10-minute average wind speed.

**Extreme Cold Temperatures**—Temperatures/ECT that are –30 degrees F and lower, being defined as –30 degrees F temperatures or colder, will last longer than a 12-hour period.

**Hazardous Road Conditions**—Driving conditions such as extreme ice fog, uncleared traffic lanes, icy roads, etc. that are not conducive to safe driving.

**Heavy Snow**—Heavy snow warnings are issued by the Alaska Weather Operations Center when 4 inches or more of snow is forecast to fall within 12 hours.

**Mission-Essential Personnel**—Those personnel who are absolutely necessary for unit mission accomplishment and whose absence would cause unit mission failure. Squadron commanders determine mission-essential personnel.

**Official Ground Travel**—Official ground travel is considered to be travel in government owned, rented, or leased vehicles and POV used for official purposes (TDY, etc.).

**Poor Visibility**—(1) Eielson AFB and surrounding community can expect ice fog when temperatures are –34 degrees F (ambient) or colder. Visibility may be reduced to 50 feet or less in dense traffic. (2) Blizzard conditions are a rarity. Temperatures are usually +20 degrees F (ambient) or warmer during blizzards.

**Primary Care Manager (PCM) on Call**—A credentialed provider corresponding with patient via telecom to determine medical care for patient. Initial contact to be made through the Primary Care Clinic.

**Senior Battle Staff**—The senior wing leadership directed by the wing commander. Members include the

vice wing commander and group commanders. Other units (e.g., weather) may also be directed to attend as necessary.

**Telephone Standby**—Condition where personnel will remain in quarters during adverse weather/extreme cold temperatures so they may be quickly recalled back to work if needed. Normally, personnel will only be required to be on telephone standby during their normal duty hours.

**Transitory in Duration**—Weather conditions lasting less than a single 12-hour period.

## **Attachment 2**

### **UNOCCUPIED FACILITY PROCEDURES**

**A2.1.** With the arrival of extended extreme cold weather, it is essential to inspect unoccupied facilities to ensure there is adequate heat to prevent property loss from frozen water lines.

**A2.2.** Visit unoccupied facilities daily. If temperatures are –40 degrees F (ambient) or colder, use the buddy system and do building checks a minimum of every 8 hours. Ensure:

A2.2.1. Windows and exterior doors are completely closed and secure.

A2.2.2. Administrative space temperatures are minimum 60 degrees F.

A2.2.3. Warehouse/hangar space temperatures are minimum 50 degrees F.

A2.2.4. Furnaces, blowers, pumps, etc. are not making unusual or loud noises.

A2.2.5. Interior doors are left open to maximize air movement within the facility.

A2.2.6. Water lines are checked by opening faucets and ensuring water flow.

A2.2.7. Inspect floors for standing water from frozen lines or steam leaks.

**A2.3.** If there are any problems, contact the Civil Engineering Service Call at 377-1856.

## Attachment 3

## COLD STRESS CONDITIONS

Equivalent Chill Temperature Degrees F	Cold Stress Condition	Required Precautions and Hourly Work/Warming Cycle*
60 to 41	Standard	Wear gloves. Do not perform work with bare hands for more than 10 minutes. Cover metal handles and bars with thermal insulation.
40 to 0	Moderate (Green)	Follow Standard precautions. No outdoor operations with water (vehicle/aircraft washing). 50 min work / 10 min warming. Wear gloves and total body protection. Avoid heavy sweating. Change wet clothes immediately.
-1 to -20	Caution (Yellow)	Follow Standard and Moderate precautions. Wear mittens, not gloves. 40 min work / 20 min warming.
-21 to -39	Danger (Blue)	Follow Standard through Caution actions. 30 min work / 30 min warming. Implement the "buddy system".
-40 and below	Extreme (Black)	Mission critical work only. **

\* Warming must be in an indoor, heated environment.

\*\* The unit commander will determine which tasks are mission critical.

## Attachment 4

## 354 OG ADVERSE WEATHER CHECKLIST

A4.1. The OG/CC will:

<b><i>Observed ECT (degrees F) at Eielson</i></b>				
<b><i>40 to 0</i></b>	<b><i>-1 to -20</i></b>	<b><i>-21 to -39</i></b>	<b><i>-40 &amp; below</i></b>	<b><i>Action Required</i></b>
X	X	X	X	No outdoor operations with water (aircraft washing, etc.)
X	X	X	X	Ensure avoidance of heavy sweating/change wet clothes ASAP
	X	X	X	Enforce mandatory wear of gloves and hat
X				Institute 50 minute work / 10 minute warming cycle
	X			Institute 40 minute work / 20 minute warming cycle
		X		Institute 30 minute work / 30 minute warming cycle
		X		Implement the "buddy system"
			X	Institute 15 minute work / 15 minute warming cycle (requires WG/CC or OG/CC approval)
			X	All outside flight line maintenance and flying operations require WG/CC or OG/CC approval
			X	Airborne aircraft may continue with planned mission, but will return with enough fuel to allow for slower de-arm operations
			X	Cease travel to Yukon/Oklahoma ranges. Those already down range will return as soon as practical via original transportation
			X	Continue scheduled Blair Lakes crew changes (primary-helo)
			X	Eielson Range Job control will monitor 353 CTS land mobile radio net until all down-range contractor personnel return
<b><i>Observed or Forecast (degrees F) ECT in Eielson owned/scheduled military training routes and special use airspace (24 hours)</i></b>				
<b><i>-50 &amp; below</i></b>	<b><i>Action Required</i></b>			
X	354 FW will close effected airspace to all users (no over flight)			
X	Equipment and vehicles will not be driven except in an emergency unless kept in a warm garage and outside time of travel does not exceed 1 hour			
X	Travel to and from the ranges is only authorized for emergencies and requires WG/CC or OG/CC approval			

Attachment 5

Attachment 5A – Equivalent Chill Temperature (ECT)																			
Average Wind Speed (kts) During Previous 10 Minute Period																			
Ambient Temperature	F	C	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35
50	10	49	48	47	46	45	45	44	44	43	43	43	42	42	42	41	41	41	41
49	9.5	48	47	46	45	44	44	43	43	42	42	42	41	41	41	40	40	40	39
48	8.9	47	45	44	43	43	42	42	41	41	40	40	40	39	39	39	39	38	38
47	8.4	46	44	43	42	41	41	40	40	39	39	39	38	38	38	38	37	37	37
46	7.8	45	43	42	41	40	40	39	38	38	38	37	37	37	37	36	36	36	35
45	7.2	44	42	41	40	39	38	38	37	37	36	36	35	35	35	35	34	34	34
44	6.7	42	41	39	38	38	37	36	36	35	35	34	34	34	34	33	33	33	32
43	6.1	41	39	38	37	36	36	35	34	34	34	33	33	32	32	32	32	31	31
42	5.6	40	38	37	36	35	34	34	33	33	32	32	31	31	31	31	30	30	30
41	5	39	37	36	35	34	33	32	32	31	31	30	30	30	30	29	29	29	28
40	4.5	38	36	35	33	33	32	31	31	30	30	29	29	28	28	28	28	27	27
39	3.9	37	35	33	32	31	31	30	29	29	28	28	27	27	27	27	26	26	26
38	3.4	36	34	32	31	30	29	29	28	27	27	26	26	26	26	25	25	24	24
37	2.8	34	32	31	30	29	28	27	27	26	26	25	25	24	24	24	23	23	23
36	2.2	33	31	30	28	27	27	26	25	25	24	24	23	23	22	22	22	22	21
35	1.7	32	30	28	27	26	25	25	24	23	23	22	22	21	21	21	21	20	20
34	1.1	31	29	27	26	25	24	23	23	22	22	21	21	20	20	19	19	19	19
33	0.6	30	28	26	25	24	23	22	21	21	20	20	19	19	18	18	17	17	17
32	0	29	26	25	24	22	22	21	20	19	19	18	18	17	17	17	17	16	16
31	-0.6	28	25	24	22	21	20	19	19	18	18	17	16	16	16	16	15	15	14
30	-1.1	26	24	22	21	20	19	18	18	17	16	16	15	15	14	14	14	13	13
29	-1.7	25	23	21	20	19	18	17	16	16	15	14	14	13	13	12	12	12	12
28	-2.2	24	22	20	19	17	17	16	15	14	14	13	12	12	12	11	11	11	10
27	-2.8	23	20	19	17	16	15	14	13	13	12	12	11	11	10	10	9	9	9
26	-3.4	22	19	17	16	15	14	13	12	11	11	10	10	9	9	8	8	8	7
25	-3.9	21	18	16	15	14	13	12	11	10	10	9	8	8	7	7	7	6	6
24	-4.5	20	17	15	14	12	11	10	10	9	8	8	7	6	6	5	5	5	5
23	-5	18	16	14	12	11	10	9	8	8	7	6	6	5	5	4	4	4	3
22	-5.6	17	15	13	11	10	9	8	7	6	6	5	4	4	3	3	3	2	2
21	-6.1	16	13	11	10	9	8	7	6	5	4	4	3	2	2	1	1	1	0
20	-6.7	15	12	10	9	7	6	5	4	4	3	2	2	1	1	0	0	0	-1
19	-7.3	14	11	9	7	6	5	4	3	2	1	1	0	0	-1	-1	-1	-2	-2
18	-7.8	13	10	8	6	5	4	3	2	1	0	-1	-1	-2	-2	-2	-3	-3	-4
17	-8.4	12	9	6	5	4	2	1	0	0	-1	-2	-3	-3	-4	-4	-4	-5	-5
16	-8.9	10	7	5	4	2	1	0	-1	-2	-2	-3	-4	-4	-4	-5	-6	-6	-7
15	-9.5	9	6	4	2	1	0	-1	-2	-3	-4	-5	-5	-6	-6	-7	-7	-7	-8
14	-10	8	5	3	1	0	-1	-3	-3	-4	-5	-6	-7	-7	-8	-8	-8	-9	-9
13	-10.6	7	4	2	0	-2	-3	-4	-5	-6	-6	-7	-8	-9	-9	-10	-10	-10	-11
12	-11.1	6	3	0	-1	-3	-4	-5	-6	-7	-8	-9	-9	-10	-10	-11	-12	-12	-12

**Attachment 5B – Equivalent Chill Temperature (ECT)**

Average Wind Speed (kts) During Previous 10 Minute Period

	F	C	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	
A m b i e n t	11	-11.7	5	2	-1	-3	-4	-5	-6	-7	-8	-9	-10	-11	-11	-12	-12	-13	-13	
	10	-12.3	4	0	-2	-4	-5	-7	-8	-9	-10	-11	-11	-12	-13	-13	-14	-14	-15	
	9	-12.8	2	-1	-3	-5	-7	-8	-9	-10	-11	-12	-13	-13	-14	-15	-15	-16	-16	
	8	-13.4	1	-2	-4	-6	-8	-9	-10	-11	-12	-13	-14	-15	-15	-16	-17	-17	-18	
	7	-13.9	0	-3	-6	-8	-9	-10	-12	-13	-14	-14	-15	-16	-17	-17	-18	-19	-19	
	6	-14.5	-1	-4	-7	-9	-10	-10	-12	-13	-14	-15	-16	-17	-17	-18	-19	-19	-20	-21
	5	-15.0	-2	-6	-8	-10	-12	-13	-14	-15	-16	-17	-18	-19	-19	-20	-21	-21	-22	-22
	4	-15.6	-3	-7	-9	-11	-13	-14	-15	-17	-18	-18	-19	-20	-21	-21	-22	-23	-23	-23
	3	-16.1	-4	-8	-11	-12	-14	-16	-17	-18	-19	-20	-21	-21	-22	-23	-23	-24	-24	-25
	2	-16.7	-6	-9	-12	-14	-15	-17	-18	-19	-20	-21	-22	-23	-23	-24	-25	-25	-26	-26
A i r	1	-17.2	-7	-10	-13	-15	-17	-18	-19	-20	-21	-22	-23	-24	-25	-26	-26	-27	-27	
	0	-17.8	-8	-12	-14	-16	-18	-19	-21	-22	-23	-24	-25	-26	-26	-27	-28	-28	-29	
	-1	-18.4	-9	-13	-15	-18	-19	-21	-22	-23	-24	-25	-26	-27	-28	-28	-29	-30	-30	
	-2	-18.9	-10	-14	-17	-19	-20	-22	-23	-24	-26	-26	-27	-28	-29	-30	-30	-31	-32	
	-3	-19.5	-11	-15	-18	-20	-22	-23	-25	-26	-27	-28	-29	-30	-30	-31	-32	-32	-33	
	T e m p e r a t u r e	-4	-20	-12	-16	-19	-21	-23	-25	-26	-27	-28	-29	-30	-31	-32	-32	-33	-34	-34
		-5	-20.6	-14	-18	-20	-22	-24	-25	-27	-28	-29	-30	-31	-32	-33	-34	-34	-35	-36
		-6	-21.1	-15	-19	-21	-24	-25	-27	-28	-30	-31	-32	-33	-34	-34	-35	-36	-37	-37
		-7	-21.7	-16	-20	-23	-25	-27	-28	-30	-31	-32	-33	-34	-35	-36	-37	-37	-38	-39
		-8	-22.2	-17	-21	-24	-26	-28	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39	-39	-40
-9		-22.8	-18	-22	-25	-27	-29	-31	-32	-34	-35	-36	-37	-38	-38	-39	-40	-41	-41	
-10		-23.4	-19	-23	-26	-29	-31	-32	-34	-35	-36	-37	-38	-39	-40	-41	-41	-42	-43	
-11		-23.9	-20	-25	-28	-30	-32	-34	-35	-36	-37	-38	-39	-50	-41	-42	-43	-44	-44	
-12		-24.5	-22	-26	-29	-31	-33	-35	-36	-38	-39	-40	-41	-42	-43	-43	-44	-45	-46	
-13		-25.0	-23	-27	-30	-32	-34	-36	-38	-39	-40	-41	-42	-43	-44	-45	-46	-46	-47	
D e g r e e s	-14	-25.6	-24	-28	-31	-34	-36	-37	-39	-40	-41	-42	-43	-44	-45	-46	-47	-48	-48	
	-15	-26.1	-25	-29	-32	-35	-37	-39	-40	-41	-43	-44	-45	-46	-47	-47	-48	-49	-50	
	-16	-26.7	-26	-31	-34	-36	-38	-40	-41	-43	-44	-45	-46	-47	-48	-49	-50	-50	-51	
	-17	-27.2	-27	-32	-35	-37	-39	-41	-43	-44	-45	-46	-47	-48	-49	-50	-51	-52	-53	
	-18	-27.8	-28	-33	-36	-39	-41	-42	-44	-45	-47	-48	-49	-50	-51	-52	-52	-53	-54	
	-19	-28.4	-30	-34	-37	-40	-42	-44	-45	-47	-48	-49	-50	-51	-52	-53	-54	-55	-55	
	-20	-28.9	-31	-35	-39	-41	-43	-45	-47	-48	-49	-50	-52	-53	-54	-54	-55	-56	-57	
	-21	-29.5	-32	-37	-40	-42	-44	-46	-48	-49	-51	-52	-53	-54	-55	-56	-57	-57	-58	
	-22	-30	-33	-38	-41	-44	-46	-48	-49	-51	-52	-53	-54	-55	-56	-57	-58	-59	-60	
	-23	-30.6	-34	-39	-42	-45	-47	-49	-50	-52	-53	-54	-56	-57	-58	-58	-59	-60	-61	
-24	-31.1	-35	-40	-43	-46	-48	-50	-52	-53	-55	-56	-57	-58	-59	-60	-61	-62	-62		
-25	-31.7	-36	-41	-45	-47	-49	-51	-53	-55	-56	-57	-58	-59	-60	-61	-62	-63	-64		
-26	-32.2	-38	-42	-46	-49	-51	-53	-54	-56	-57	-58	-60	-61	-62	-63	-63	-64	-65		
-27	-32.8	-39	-44	-47	-50	-52	-54	-56	-57	-58	-60	-61	-62	-63	-64	-65	-66	-66		

**Attachment 5C – Equivalent Chill Temperature (ECT)**

Average Wind Speed (kts) During Previous 10 Minute Period

	<b>F</b>	<b>C</b>	<b>3</b>	<b>5</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>13</b>	<b>15</b>	<b>17</b>	<b>19</b>	<b>21</b>	<b>23</b>	<b>25</b>	<b>27</b>	<b>29</b>	<b>31</b>	<b>33</b>	<b>35</b>
<b>A</b>	<b>-28</b>	<b>-33.4</b>	<b>-40</b>	<b>-45</b>	<b>-48</b>	<b>-51</b>	<b>-53</b>	<b>-55</b>	<b>-57</b>	<b>-59</b>	<b>-60</b>	<b>-61</b>	<b>-62</b>	<b>-63</b>	<b>-64</b>	<b>-65</b>	<b>-66</b>	<b>-67</b>	<b>-68</b>
<b>m</b>	<b>-29</b>	<b>-33.9</b>	<b>-41</b>	<b>-46</b>	<b>-50</b>	<b>-52</b>	<b>-55</b>	<b>-57</b>	<b>-58</b>	<b>-60</b>	<b>-61</b>	<b>-62</b>	<b>-64</b>	<b>-65</b>	<b>-66</b>	<b>-67</b>	<b>-68</b>	<b>-68</b>	<b>-69</b>
<b>b</b>	<b>-30</b>	<b>-34.5</b>	<b>-42</b>	<b>-47</b>	<b>-51</b>	<b>-54</b>	<b>-56</b>	<b>-58</b>	<b>-60</b>	<b>-61</b>	<b>-63</b>	<b>-64</b>	<b>-65</b>	<b>-66</b>	<b>-67</b>	<b>-68</b>	<b>-69</b>	<b>-70</b>	<b>-71</b>
<b>i</b>	<b>-31</b>	<b>-35</b>	<b>-43</b>	<b>-48</b>	<b>-52</b>	<b>-55</b>	<b>-57</b>	<b>-59</b>	<b>-61</b>	<b>-62</b>	<b>-64</b>	<b>-65</b>	<b>-66</b>	<b>-67</b>	<b>-68</b>	<b>-69</b>	<b>-70</b>	<b>-71</b>	<b>-72</b>
<b>e</b>	<b>-32</b>	<b>-35.6</b>	<b>-44</b>	<b>-50</b>	<b>-53</b>	<b>-56</b>	<b>-58</b>	<b>-60</b>	<b>-62</b>	<b>-64</b>	<b>-65</b>	<b>-66</b>	<b>-68</b>	<b>-69</b>	<b>-70</b>	<b>-71</b>	<b>-72</b>	<b>-73</b>	<b>-73</b>
<b>n</b>	<b>-33</b>	<b>-36.1</b>	<b>-46</b>	<b>-51</b>	<b>-54</b>	<b>-57</b>	<b>-60</b>	<b>-62</b>	<b>-63</b>	<b>-65</b>	<b>-66</b>	<b>-68</b>	<b>-69</b>	<b>-70</b>	<b>-71</b>	<b>-72</b>	<b>-73</b>	<b>-74</b>	<b>-75</b>
<b>t</b>	<b>-34</b>	<b>-36.7</b>	<b>-47</b>	<b>-52</b>	<b>-56</b>	<b>-58</b>	<b>-61</b>	<b>-63</b>	<b>-65</b>	<b>-66</b>	<b>-68</b>	<b>-69</b>	<b>-70</b>	<b>-71</b>	<b>-73</b>	<b>-74</b>	<b>-74</b>	<b>-75</b>	<b>-76</b>
<b>A</b>	<b>-35</b>	<b>-37.2</b>	<b>-48</b>	<b>-53</b>	<b>-57</b>	<b>-60</b>	<b>-62</b>	<b>-64</b>	<b>-66</b>	<b>-68</b>	<b>-69</b>	<b>-70</b>	<b>-72</b>	<b>-73</b>	<b>-74</b>	<b>-75</b>	<b>-76</b>	<b>-77</b>	<b>-78</b>
<b>i</b>	<b>-36</b>	<b>-37.8</b>	<b>-49</b>	<b>-54</b>	<b>-58</b>	<b>-61</b>	<b>-63</b>	<b>-66</b>	<b>-67</b>	<b>-69</b>	<b>-70</b>	<b>-72</b>	<b>-73</b>	<b>-74</b>	<b>-75</b>	<b>-76</b>	<b>-77</b>	<b>-78</b>	<b>-79</b>
<b>r</b>	<b>-37</b>	<b>-38.4</b>	<b>-50</b>	<b>-56</b>	<b>-59</b>	<b>-62</b>	<b>-65</b>	<b>-67</b>	<b>-69</b>	<b>-70</b>	<b>-72</b>	<b>-73</b>	<b>-74</b>	<b>-76</b>	<b>-77</b>	<b>-78</b>	<b>-79</b>	<b>-80</b>	<b>-80</b>
<b>T</b>	<b>-38</b>	<b>-38.9</b>	<b>-51</b>	<b>-57</b>	<b>-61</b>	<b>-64</b>	<b>-66</b>	<b>-68</b>	<b>-70</b>	<b>-72</b>	<b>-73</b>	<b>-74</b>	<b>-76</b>	<b>-77</b>	<b>-78</b>	<b>-79</b>	<b>-80</b>	<b>-81</b>	<b>-82</b>
<b>e</b>	<b>-39</b>	<b>-39.5</b>	<b>-52</b>	<b>-58</b>	<b>-62</b>	<b>-65</b>	<b>-67</b>	<b>-69</b>	<b>-71</b>	<b>-73</b>	<b>-74</b>	<b>-76</b>	<b>-77</b>	<b>-78</b>	<b>-79</b>	<b>-80</b>	<b>-81</b>	<b>-82</b>	<b>-83</b>
<b>m</b>	<b>-40</b>	<b>-40</b>	<b>-54</b>	<b>-59</b>	<b>-63</b>	<b>-66</b>	<b>-68</b>	<b>-71</b>	<b>-73</b>	<b>-74</b>	<b>-76</b>	<b>-77</b>	<b>-78</b>	<b>-80</b>	<b>-81</b>	<b>-82</b>	<b>-83</b>	<b>-84</b>	<b>-85</b>
<b>p</b>	<b>-41</b>	<b>-40.6</b>	<b>-55</b>	<b>-60</b>	<b>-64</b>	<b>-67</b>	<b>-70</b>	<b>-72</b>	<b>-74</b>	<b>-75</b>	<b>-77</b>	<b>-78</b>	<b>-80</b>	<b>-81</b>	<b>-82</b>	<b>-83</b>	<b>-84</b>	<b>-85</b>	<b>-86</b>
<b>e</b>	<b>-42</b>	<b>-41.1</b>	<b>-56</b>	<b>-61</b>	<b>-65</b>	<b>-68</b>	<b>-71</b>	<b>-73</b>	<b>-75</b>	<b>-77</b>	<b>-78</b>	<b>-80</b>	<b>-81</b>	<b>-82</b>	<b>-83</b>	<b>-85</b>	<b>-86</b>	<b>-86</b>	<b>-87</b>
<b>r</b>	<b>-43</b>	<b>-41.7</b>	<b>-57</b>	<b>-63</b>	<b>-67</b>	<b>-70</b>	<b>-72</b>	<b>-74</b>	<b>-76</b>	<b>-78</b>	<b>-80</b>	<b>-81</b>	<b>-82</b>	<b>-84</b>	<b>-85</b>	<b>-86</b>	<b>-87</b>	<b>-88</b>	<b>-89</b>
<b>a</b>	<b>-44</b>	<b>-42.2</b>	<b>-58</b>	<b>-64</b>	<b>-68</b>	<b>-71</b>	<b>-73</b>	<b>-76</b>	<b>-78</b>	<b>-79</b>	<b>-81</b>	<b>-82</b>	<b>-84</b>	<b>-85</b>	<b>-86</b>	<b>-87</b>	<b>-88</b>	<b>-89</b>	<b>-90</b>
<b>t</b>	<b>-45</b>	<b>-42.8</b>	<b>-59</b>	<b>-65</b>	<b>-69</b>	<b>-72</b>	<b>-75</b>	<b>-77</b>	<b>-79</b>	<b>-81</b>	<b>-82</b>	<b>-84</b>	<b>-85</b>	<b>-86</b>	<b>-87</b>	<b>-89</b>	<b>-90</b>	<b>-91</b>	<b>-92</b>
<b>u</b>	<b>-46</b>	<b>-43.4</b>	<b>-60</b>	<b>-66</b>	<b>-70</b>	<b>-73</b>	<b>-76</b>	<b>-78</b>	<b>-80</b>	<b>-82</b>	<b>-84</b>	<b>-85</b>	<b>-87</b>	<b>-88</b>	<b>-89</b>	<b>-90</b>	<b>-91</b>	<b>-92</b>	<b>-93</b>
<b>r</b>	<b>-47</b>	<b>-43.9</b>	<b>-62</b>	<b>-67</b>	<b>-71</b>	<b>-75</b>	<b>-77</b>	<b>-80</b>	<b>-82</b>	<b>-83</b>	<b>-85</b>	<b>-86</b>	<b>-88</b>	<b>-89</b>	<b>-90</b>	<b>-91</b>	<b>-92</b>	<b>-93</b>	<b>-94</b>
<b>e</b>	<b>-48</b>	<b>-44.5</b>	<b>-63</b>	<b>-69</b>	<b>-73</b>	<b>-76</b>	<b>-79</b>	<b>-81</b>	<b>-83</b>	<b>-85</b>	<b>-86</b>	<b>-88</b>	<b>-89</b>	<b>-90</b>	<b>-92</b>	<b>-93</b>	<b>-94</b>	<b>-95</b>	<b>-96</b>
	<b>-49</b>	<b>-45</b>	<b>-64</b>	<b>-70</b>	<b>-74</b>	<b>-77</b>	<b>-80</b>	<b>-82</b>	<b>-84</b>	<b>-86</b>	<b>-88</b>	<b>-89</b>	<b>-91</b>	<b>-92</b>	<b>-93</b>	<b>-94</b>	<b>-95</b>	<b>-96</b>	<b>-97</b>
	<b>-50</b>	<b>-45.6</b>	<b>-65</b>	<b>-71</b>	<b>-75</b>	<b>-78</b>	<b>-81</b>	<b>-83</b>	<b>-85</b>	<b>-87</b>	<b>-89</b>	<b>-90</b>	<b>-92</b>	<b>-93</b>	<b>-94</b>	<b>-95</b>	<b>-97</b>	<b>-98</b>	<b>-99</b>
	<b>-51</b>	<b>-46.1</b>	<b>-66</b>	<b>-72</b>	<b>-76</b>	<b>-80</b>	<b>-82</b>	<b>-85</b>	<b>-87</b>	<b>-89</b>	<b>-90</b>	<b>-92</b>	<b>-93</b>	<b>-94</b>	<b>-96</b>	<b>-97</b>	<b>-98</b>	<b>-99</b>	<b>-100</b>
	<b>-52</b>	<b>-46.7</b>	<b>-67</b>	<b>-73</b>	<b>-78</b>	<b>-81</b>	<b>-84</b>	<b>-86</b>	<b>-88</b>	<b>-90</b>	<b>-92</b>	<b>-93</b>	<b>-95</b>	<b>-96</b>	<b>-97</b>	<b>-98</b>	<b>-99</b>	<b>-100</b>	<b>-101</b>
	<b>-53</b>	<b>-47.2</b>	<b>-68</b>	<b>-74</b>	<b>-79</b>	<b>-82</b>	<b>-85</b>	<b>-87</b>	<b>-89</b>	<b>-91</b>	<b>-93</b>	<b>-94</b>	<b>-96</b>	<b>-97</b>	<b>-98</b>	<b>-100</b>	<b>-101</b>	<b>-102</b>	<b>-103</b>
	<b>-54</b>	<b>-47.8</b>	<b>-70</b>	<b>-76</b>	<b>-80</b>	<b>-83</b>	<b>-86</b>	<b>-89</b>	<b>-91</b>	<b>-93</b>	<b>-94</b>	<b>-96</b>	<b>-97</b>	<b>-99</b>	<b>-100</b>	<b>-101</b>	<b>-102</b>	<b>-103</b>	<b>-104</b>
	<b>-55</b>	<b>-48.4</b>	<b>-71</b>	<b>-77</b>	<b>-81</b>	<b>-85</b>	<b>-87</b>	<b>-90</b>	<b>-92</b>	<b>-94</b>	<b>-96</b>	<b>-97</b>	<b>-99</b>	<b>-100</b>	<b>-101</b>	<b>-102</b>	<b>-104</b>	<b>-105</b>	<b>-106</b>