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**Maintenance**

**AIRCRAFT SEVERE WEATHER  
PROCEDURES**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction establishes responsibilities and procedures for protection of personnel, securing aircraft and equipment, and performing flight line maintenance during severe weather. It applies to all maintenance activities and personnel assigned or attached to the 62d Airlift Wing (62 AW). This instruction is consistent with Air Force Manual 91-201 and Air Force Occupational Safety and Health (AFOSH) Standards 91-38, 91-100, and 91-501.

**SUMMARY OF REVISIONS**

**This document has been completely revised and must be reviewed in its entirety.** All references to C-141B aircraft have been removed. Squadron and group names have been changed as a result of changes to AFI 21-101. Restrictions on operation of different types of high reach equipment and deicers in gusting winds have been added. IC 2001-1 has been incorporated into this instruction.

**1. General.** The Weather Flight is responsible for making the initial notification to predetermined support agencies of severe weather conditions. Supervisors will consider weather conditions when scheduling the following activities: refueling; jacking; towing; working from maintenance stands; removing and replacing engines, control surfaces, propellers, and large exterior panels; and performing fuel system or munitions operations. Severe weather conditions include: strong surface winds, heavy rain, freezing precipitation, and thunderstorms (i.e., dangerous lightning, damaging winds, and hail).

**2. Procedures.**

2.1. In the event of severe weather conditions, the Weather Flight notifies the 62 AW Command Post (CP). CP will notify 62d Operations Group, 62d Mission Support Group, Air Terminal Operations Center (ATOC), and the Maintenance Operations Center (MOC). The MOC will notify all 62d Maintenance Group (62 MXG) organizations of Weather Warnings/Advisories. Weather Warnings are issued by Weather Flight for the following criteria: winds 30 knots or greater, winds 50 knots or

greater, tornadoes, freezing precipitation, lightning within 5 nautical miles (NM), hail  $\frac{3}{4}$  inch diameter or greater, and heavy snow 2 inches or greater in 12 hours or less. The warnings and advisories are transmitted via New Tactical Forecast System (NTFS) to the Command Post and Base Ops. Winds 20 knots or greater are passed via phone to the MOC. All 62 MXG functions will comply with requirements listed in [Attachment 2](#).

2.2. Additionally, the Weather Flight issues a:

2.2.1. "Lightning Watch" when the potential exists in the next 30 minutes for lightning to occur within 5 NM of McChord AFB. MOC will notify 62d Logistics Readiness Squadron, Fuels Management Flight (62 LRS/LGRF), 62d Maintenance Squadron, Fuel Systems Repair Element (62 MXS/MXMCF), and 62 MXS Munitions Flight (62 MXS/MXMW) directly to allow sufficient time to suspend fuel system and munitions maintenance. All other 62 MXG functions will be notified of the lightning watch by the most direct means available, including non-tactical radio. The MOC will make provisions to notify the base museum as necessary.

2.2.2. "Lightning Warning" when lightning is observed within 5 NM of McChord AFB. All 62 MXG functions will comply with requirements in [Attachment 2](#).

2.2.3. Each organization will initiate their respective severe weather operating procedures. The 62 MXG will comply with requirements given in the "Severe Weather Warning Procedures" in [Attachment 2](#) and/or "Thunderstorm/Lightning Procedures" in [Attachment 3](#).

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Commander, 62d Airlift Wing

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

- Air Force Manual 91-201, Interim Change 2001-1, *Explosive Safety Standards*, 18 Oct 2001
- T.O. 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cell*, 30 Aug 2002
- T.O. 1C-17A-2-1, *Aircraft Cross Servicing Guide*, 1 Jul 2002
- T.O. 1C-17A-2-10JG-1, *Ground Handling Parking/Mooring*, 1 Jun 1995
- T.O. 35A4-2-67-1, *Operation and Maintenance Instructions with Illustrated Parts Breakdown, Maintenance Platform Split Deck, Diesel Part No. 50000-000-00*, 4 Apr 2003
- T.O. 35D34-31-1, *Operation and Maintenance Instructions with Illustrated Parts Breakdown, Self-Propelled Servicing Platform Part Numbers 3533830-501*, 1 Nov 2002
- T.O. 35D34-35-1, *Condor Vehicle-Mounted, Elevating and Rotating Aerial Work Platform Model 125S-USAF Operator's, Vendor Parts, and Illustrated Parts Manual*, 1 Aug 2000
- T.O. 35E17-6-21, *Model TM-1800 Truck Mounted Deicer/Washer*
- 62 AWI 15-1, ISS 1-1.3SS-20 *Weather Support*, 1 Sep 2000

***Abbreviations and Acronyms***

- AFOSH**—Air Force Occupational Safety and Health
- AMU**—Aircraft Maintenance Unit
- AMXS**—Aircraft Maintenance Squadron
- ATOC**—Air Terminal Operations Center
- CAT**—Crisis Action Team
- CP**—Command Post
- MOC**—Maintenance Operations Center
- NM**—Nautical Mile
- NTFS**—New Tactical Forecast System
- POL**—Petroleum, Oils and Lubricants

## Attachment 2

### SEVERE WEATHER WARNING PROCEDURES

**A2.1.** 62d Aircraft Maintenance Squadron (62 AMXS) and 62d Maintenance Squadron (62 MXS) Production Superintendents (Pro Supers) are responsible for ensuring compliance with these instructions. Pro Supers will ensure the following:

**A2.2. Condition Normal:**

A2.2.1. Prior to closing shops or flights for unmanned shifts, weekends, or holidays, the following will be accomplished: all stands and non-powered AGE will be removed from the vicinity of aircraft that are not parked in enclosed hangars, and aircraft covers installed. All aircraft doors, hatches, and windows will be closed, and aircraft configured and parked to withstand predicted weather forecasts.

**A2.3. Condition 1, Severe Weather Conditions:**

A2.3.1. MOC will annotate tail numbers of secured aircraft when conditions warrant (per paragraph 6.4.) and notify appropriate agencies as necessary.

A2.3.2. Expeditors will accomplish their respective severe weather checklists and actions.

A2.3.3. Transient aircraft will be properly secured. MOC will coordinate with Transient Alert or 62d Maintenance Group Quality Assurance Contract Evaluators (62 MXG/QAE) for requirements.

A2.3.4. Ensure that one tow vehicle per Aircraft Maintenance Unit (AMU) and one tow vehicle for the inspection docks is available if winds are expected to exceed 40 knots.

A2.3.5. Flaps, slats, and spoilers are retracted on all aircraft when power and pneudraulics can be applied. **Ensure snow and ice are removed prior to retraction if possible.** Raising flaps or closing spoilers and slats after freezing precipitation or excessive snow accumulation can damage the flight controls.

A2.3.6. When maximum predicted winds are between 14-17 knots, the aircraft's elevators, ailerons, and rudders shall be protected from wind-induced damage by maintaining minimum hydraulic pressure on dampers in elevator, aileron, and rudder control valves IAW T.O. 1C-17A-2-10JG-1, paragraphs 1-11 and 1-14.

A2.3.7. Aircraft Maintenance Production Supervisors will evaluate the need to reposition, refuel, and moor aircraft IAW 1C-17A-2-1, para 2-50 to meet predicted weather conditions.

**NOTE:** Wind speed requiring repositioning or mooring when the aircraft is parked on snow or ice is considerably less.

A2.3.8. As a general guidance, a C-17A with a gross weight of 268,000 to 580,000 may be parked as follows:

On a dry surface with winds up to 70 knots.

On a wet surface with winds up to 52 knots.

On ice or snow covered surface with winds up to 26 knots.

**A2.4. Condition 2, Winds at or Exceeding 20 Knots:**

A2.4.1. Ensure all requirements of Severe Weather Condition 1 are accomplished along with the following:

A2.4.2. Exposed aircraft with disconnected flight control surfaces will be secured and control surface locks installed if necessary.

A2.4.3. Hangar doors are closed.

A2.4.4. Aircraft windows, hatches, radomes, and doors are closed; nose landing gear steering components connected.

A2.4.5. Engine cowlings and radomes may be opened only when Production Superintendents determine these tasks can be accomplished safely.

A2.4.6. Return condors to parking area. Condors will not be used.

**A2.5. At or above 25 knots:**

A2.5.1. Maintenance on top of aircraft will cease. All activities will be suspended if safety is jeopardized.

A2.5.2. Ensure all non-essential stands and support equipment are removed from the aircraft parking area, transported to a storage area, and secured to steel cables.

A2.5.3. Ensure no aircraft engine removal/installation begins or is allowed to continue unless the aircraft is fully enclosed in a hangar. Engine must be 3 pointed as a minimum for security.

A2.5.4. Aircraft fuselage jacking must cease unless fully enclosed in a hangar. Down jack any aircraft on jacks IAW 1C-17A-2-07JG-10-1. Maximum winds for integral jacking is 41 knots IAW 1C-17A-07JG-10-2.

A2.5.5. Pro Supers will determine mooring requirements IAW 1C-17A-2-1, para 2-50 and if required, ensure aircraft are moored IAW 1C-17A-2-10JG-1.

A2.5.6. Simon Manlift will not be operated outdoors.

**A2.6. Condition 3, Winds Forecast at or Exceeding 30 Knots:**

A2.6.1. Ensure all requirements of Severe Weather Conditions 1 and 2 are accomplished.

A2.6.2. Pro Supers will determine mooring requirements IAW 1C-17A-2-1, para 2-50 and, if required, ensure aircraft are moored IAW 1C-17A-2-10JG-1.

A2.6.3. Mike 2 will suspend open tank fuel system maintenance 30 minutes prior to predicted winds reaching 30 knots, due to potential static buildup from wind on exposed tail surface. This lead time is required to allow closure of all open tanks

A2.6.4. The 62d Logistics Readiness Fuels Management Flight (POL) controller will initiate the POL Severe Weather Checklist.

**A2.7. Condition 4, Winds at or Exceeding 40 Knots:**

A2.7.1. Ensure all requirements of Severe Weather Condition 1, 2, and 3 are accomplished.

A2.7.2. All aircraft exterior maintenance is terminated, except maintenance essential to safeguard aircraft or the wing mission, as determined by the 62 MXG/CC or representative. Does not apply to hangared aircraft.

A2.7.3. Ensure sufficient tow teams exist for emergencies, movement of aircraft from nose docks, repositioning of aircraft parked on Bravo ramp, Juliet ramp spots 13, 14, 15, and Lima areas, etc. (Multiple tows may be accomplished using separate maintenance radio nets if necessary.) Movement of aircraft is determined by the aircraft gross weight and the forecast winds (See paragraph 10).

A2.7.4. All aircraft tail numbers and status are reported to MOC when secured.

A2.7.5. All loose materials and equipment that pose a threat to the flight line are taken indoors or secured (trashcans, etc).

A2.7.6. Pro Supers will determine mooring requirements IAW 1C-17A-2-1, para 2-50 and if required, ensure aircraft are moored IAW 1C-17A-2-10JG-1.

A2.7.7. Cease all aircraft jacking (nose, full, and integral) per T.O. 1C-17A-2-07JG-10-2 when aircraft are outside or cannot be fully enclosed in a hangar.

A2.7.8. Split Deck mobile work platform, GL1800AP and ERD 28975 deicers will not be used.

#### **A2.8. Condition 5, Winds Forecast at or Exceeding 50 Knots:**

A2.8.1. Ensure all requirements of Severe Weather Condition 1, 2, 3, and 4 are accomplished.

A2.8.2. Towable aircraft that extend out of the hangar will be towed clear of nose docks and parked headed into the wind. Close all hangar doors. (Ref. AFOSH 91-100, para 1.2.15.2.3)

A2.8.3. Secure fire bottles remaining on the flight line by a tie-down strap to the nearest ramp tie down, that is not being utilized as an aircraft nose gear mooring point.

A2.8.4. Pro Supers will determine mooring requirements IAW 1C-17A-2-1, para 2-50 and if required, ensure aircraft are moored IAW 1C-17A-2-10JG-1.

A2.8.5. TM-1800 Deicer will not be used.

#### **A2.9. Condition 6, Winds Forecast at or Exceeding 60 Knots:**

A2.9.1. Ensure all requirements of Severe Weather Conditions 1, 2, 3, 4, and 5 are accomplished.

A2.9.2. Alert and recall adequate personnel to perform aircraft evacuation if necessary.

A2.9.3. Complete preparations for evacuation as directed by the Crisis Action Team (CAT).

A2.9.4. Any aircraft that cannot be evacuated, fully enclosed in hangars, or moored will be nosed into the prevailing wind, refueled to 180,000 lbs., and loaded with weighted pallets in forward cargo compartment to obtain a nose heavy C/G. Total gross weight will not exceed 580,000 lbs as allowed in 1C-17A-5. (Refer to the Chart C in each aircraft "Weight & Balance Handbook". Use basic weight, add total fuel on board and total pallet weight.)

#### **A2.10. Condition 7, Forecast for Freezing Rain, Severe Icing Conditions, or Snow Accumulation of 2 Inches or more:**

A2.10.1. Vehicle tire chains will be installed when conditions warrant as directed by production superintendent or squadron supervision.

A2.10.2. Consideration will be given to hangaring mission aircraft in freezing rain or snow conditions to preclude extensive deicing. The priority criteria is departure time within the forecast time of the advisory, and within 8 hours from the scheduled departure time (based on hangar space availability, not to exceed 6 hours.)

A2.10.3. Coordinate all snow removal and ice control requirements with the Chief of Airfield Management. Upon implementation of Severe Weather Condition 7, the Production Superintendent will provide their name, call sign, and telephone number to the Chief of Airfield Management through MOC.

A2.10.4. If necessary, move aircraft to allow snow removal equipment access to airfield aprons. If practical, snow will be cleared from an aircraft prior to movement into a cleared area. Loose equipment (i.e., chocks, AGE, fire bottles, etc.) will be removed from ramp areas to provide access for snow removal and ice control equipment.

A2.10.5. Ensure all requirements of Severe Weather Condition 1 are complied with.

A2.10.6. Prepare deicing units for use, warm up fluids, and report status to MOC.

A2.10.7. Use safety ropes and restraint harnesses when maintenance or snow removal is directed on the upper wing or while using high reach equipment. (Ref: AFOSH STD. 91-100, para 8.2.5.2.)

A2.10.8. Mark aircraft nose spots and grounding points for each parking spot using flags available from the flight line support section. Remove snow and ice from around crew entry doors.

### Attachment 3

## THUNDERSTORM/LIGHTNING PROCEDURES

**A3.1. General Lightning Safety for All Air Force Activities and Operations: (Excerpt from AFOSH STD 91-100, para 1.2.15.1.)**

**A3.2. A “Lightning Watch” is in effect 30 minutes prior to when the potential of lightning exists within 5 NM of McChord AFB. During a lightning weather watch, accomplish the following:**

A3.2.1. Operations or activities may continue, however, all personnel must be prepared to adhere to lightning warning procedures without delay.

A3.2.2. Be alert for lightning activity, to include audible thunder. Advise supervisory personnel of any observations.

**A3.3. A “Lightning Warning” is in effect whenever any lightning is observed within 5 NM of McChord AFB. Personnel in affected locations or engaged in affected activities will:**

A3.3.1. Cease all outside activity and seek shelter as follows: A) Dwellings or buildings that are protected against lightning. B) Enclosed aircraft, automobiles, buses, and other vehicles. Supervisors will determine specific safe shelter locations for their work center personnel.

### **A3.4. Specific Lightning Safety for 62d Maintenance Group**

A3.4.1. All personnel will assume a lightning watch is in effect any time lightning is seen or audible thunder is heard. Be prepared to implement lightning warning procedures without delay.

A3.4.2. During periods of a “Lightning Watch:”

A3.4.3. 62 MXS (Mike 2) Pro Super will ensure:

A3.4.4. The 62 MXS Fuel Systems Repair Supervisor initiates the “Fuel Shop Electrical Storms Procedures” (Ref. Interim Safety Supplement 1-1-3SS-20.)

A3.4.5. The 62 MXS Senior Munitions Controller initiates the “Munitions Electrical Storms Procedures.”

A3.4.6. The 62d Logistics Readiness Squadron Fuels Management Flight (POL) controller will initiate the “POL Severe Weather Checklist.”

A3.4.7. During periods of a “Lightning Warning:”

A3.4.8. 62 MXS and 62 AMXS Pro Supers will ensure all personnel take cover until notified lightning is beyond the 5 NM radius and the warning is lifted (See paragraph 1.2.1. for specific safe areas.)

**NOTE: An example of a *watch/warning* and action taken is as follows: At 0500 hours the Weather Flight issues a watch valid between 1000 hours and 2000 hours, meaning the potential for lightning will exist between these times with a 30 minute built in lead time. At 1000 hours, the high risk agencies (specified in paragraph 1.2) begin their lightning procedures. At 1100 hours, a lightning warning is issued, meaning a thunderstorm cell is within 5 NM. This cell passes outside the 5 NM limit at 1200 hours and the warning is canceled. However, the potential remains, so the lightning watch**

**remains in effect and the high risk agencies stay in lightning watch procedures until 2000 hours or until the Weather Flight cancels the lightning watch.**