***BY ORDER OF THE COMMANDER***
***5TH BOMB WING***

***MINOT AIR FORCE BASE***
***INSTRUCTION 15-101***

***22 DECEMBER 2016***

***Weather***

***WEATHER SUPPORT DOCUMENT***

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Atmospheric and Space Environmental Support.* This document outlines weather services for the 5th Bomb Wing (5 BW), 91st Missile Wing (91 MW), tenant units, transient aircrews and support organizations on Minot Air Force Base (AFB). Use the document continuously during day-to-day operations, alert, and wartime conditions. It provides general information for weather services, including weather observations and forecasts; weather warnings, watches and advisories; dissemination of information; and reciprocal support. Refer recommended changes and questions about this publication to the OPR listed above using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate chain of command. Requests for waivers must be submitted to the OPR listed above for consideration and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. Contact supporting records managers as required. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

## *SUMMARY OF CHANGES*

This document is substantially revised and must be completely reviewed. Major changes include the Base Weather Flight's operating location and hours of operation, as well as the magnetic

runway heading for the airfield and associated meteorological equipment. Critical weather thresholds were updated for the 54th Helicopter Squadron. References to the Air Force Weather Agency have been replaced with 557th Weather Wing. Lastly, revisions were made to special observation criteria and weather watch, warning, and advisory criteria.

# Chapter 1

## GENERAL INFORMATION

**1.1. General.** This document accounts for the required weather support provided by the 5th Operations Support Squadron's (5 OSS) Base Weather Flight (BWF) to 5 BW, 91 MW, tenant units and transient aircrews at Minot AFB. It specifies the BWF's capability to meet those requirements. **Chapter 2** outlines the BWF mission, responsibilities and duty priorities. **Chapter 3** outlines reciprocal support with local and outside agencies. **Chapter 4** outlines the roles, responsibilities and support provided by the Airfield Weather Element. **Chapter 5** outlines the same for the Mission Weather Element. **Chapter 6** details Staff Weather Support functions. **Chapter 7** outlines contingency/emergency support.

1.1.1. General assumptions: manning, equipment and communications will be available to carry out the provisions of this document.

**1.2. Concept of Operations.** The BWF is the single point of contact for weather information at Minot AFB. It provides and/or arranges all strategic, operational and tactical-level weather information for Minot AFB units. The BWF is a limited duty work center. The BWF leverages the support of the 15th Operational Weather Squadron (15 OWS) for 24-hour forecasting services, meteorological watch and resource protection. When on duty, BWF personnel furnish tailored forecasts for mission execution, staff weather services and climate data. Additionally, BWF personnel issue weather watches, warnings and advisories; serve as the "eyes forward" for 15 OWS forecasters; and, as necessary, initiate Severe Weather Action Procedures (SWAP) to perform resource protection duties when severe weather threatens the base.

**1.3. Terms Explained**

1.3.1. Desired Lead-Time (DLT) – The amount of advanced notice units desire before weather warning, watch, or advisory conditions begin.

1.3.2. Weather Advisory (WA) – A special product notifying an end user when an established environmental condition affecting operations is occurring or is expected to occur.

1.3.3. Weather Watch (WATCH) – A special notice to notify operational commanders of the potential for environmental conditions of such intensity as to pose a hazard to life or property. A WATCH indicates a potential for environmental threats and is used by operational commanders to make force protection and risk management decisions.

1.3.4. Weather Warning (WW) – A special notice to notify operational commanders when an established weather condition of such intensity as to pose a hazard to life or property is occurring or is expected to occur. Weather warnings provide concise information outlining environmental threats and are used by operational commanders to make force protection decisions.

1.3.5. Meteorological Watch (METWATCH) – A deliberate process for monitoring terrestrial weather or the space environment in an area or region. The purpose of a METWATCH is to identify when and where observed conditions significantly diverge from forecast conditions and determine courses of action to update or amend a forecast product or group of products and notify designated agencies.

1.3.6. Mission-Scale Meteorological Watch (MISSIONWATCH) – A deliberate process for monitoring terrestrial weather or the space environment for specific mission-limiting environmental factors. The MISSIONWATCH process identifies and alerts decision-makers to changes affecting mission success.

**1.4. Primary and Alternate Operating Locations (AOL)**

1.4.1. Primary Operating Location

1.4.1.1. Location: Bldg 744, First Floor

1.4.1.2. Address: 221 Flight Line Drive, Building 744, Minot AFB, ND 58705-5021

1.4.1.3. Phone numbers:

1.4.1.3.1. Duty Forecaster: DSN/Comm: 312-453-6385/701-723-6385

1.4.1.3.2. Flight Chief: DSN/Comm: 312-453-6381/701-723-6381

1.4.1.3.3. Wing Weather Officer: DSN/Comm: 312-453-6381/701-723-6381

1.4.1.3.4. Flight Commander: DSN/Comm: 312-453-3631/701-723-3631

1.4.1.3.5. Fax: DSN/Comm: 312-453-1053/701-723-1053

1.4.1.3.6. Stand By Forecaster : Cell 701-833-1579

1.4.2. Alternate Operating Location

1.4.2.1. Location: Alert Facility (Bldg 1085), Room 220

1.4.2.2. Address: 1085 Deterrence Road, Minot AFB, ND 58705-5021

1.4.2.3. Phone number: DSN/Comm: 312-453-1916/701-723-1916

1.4.2.4. Operating capabilities at the AOL are full-function and mirror capabilities of primary location. Space for additional personnel is limited compared to primary location.

**1.5. Hours of Operation.** The BWF will operate in accordance with (IAW) weather flight hours posted in the Airport/Facility Directory in the IFR – Supplement United States Flight Information Publication (FLIP). AFMAN 15-111 states a weather flight needs to be open when the air traffic control tower is open; however, the OG/CC can waive this requirement. Currently, the weather flight closes on the weekends, holidays and base down days unless the mission requires weather personnel. When the BWF is closed, the 15 OWS will assume the responsibility to issue, extend, or cancel any appropriate WWA IAW the current OWS-BWF Installation Data Page. The OWS will follow the coordinated procedures to notify the standby weather forecaster and all necessary agencies of all WWAs issued, extended, or canceled during the BWF closure. Operating hours will typically use the following template:

1.5.1. Normal Operating Hours:

1.5.1.1. Open: Mon/0000L Close: Fri/2200L or after last locally assigned aircraft landing

1.5.1.2. Sat & Sun/0900L to 1700L

1.5.1.3. Holidays/Down Days: Closed

1.5.2. Additional Operating Conditions: The BWF may open during periods outside of normal airfield hours. These periods include but are not limited to:

1.5.2.1. 5 BW flying operations

1.5.2.2. 582 HG flying operations

1.5.2.3. Execution of Severe Weather Action Plan (SWAP) (see para. 7.8.)

1.5.2.4. Augmentation of Automated Weather Observations (FMQ-19)

1.5.2.4.1. Augmentation of the FMQ-19 will be restricted to mission-critical items for the flying squadrons. Detailed thresholds are listed in attachment 5 of this document.

## 1.6. Access to Weather Information

1.6.1. 5 OG SharePoint Link

1.6.1.1. Base Agencies may access numerous BWF products through the 5 OG SharePoint w/ link located at: **https://cs1.eis.af.mil/sites/minot/wing/5bw/5og/5oss/wx/default.aspx**.

1.6.2. 557th Weather Wing (557 WW)

1.6.2.1. The 557th Weather Wing is located at Offutt AFB, NE and is responsible for accurate, relevant, and timely air and space weather information. It provides synoptic and global-scale products by weather flights around the world.

1.6.2.2. 557 WW's main weather portal pages are located at: **https://weather.af.mil/confluence/display/AFWWEBSTBT/Home** or **https://weather.af.mil/AFW_WEBS/viewer/MapModule.php**

1.6.3. 15 OWS

1.6.3.1. The 15 OWS is the regional forecasting center for Minot AFB.

1.6.3.2. The 15 OWS provides aerodrome forecasts, regional weather analysis, weather hazard forecasts, and METWATCH services to the NE CONUS, to include Minot AFB.

1.6.3.3. The 15 OWS is a 24/7 operations center that collaborates with the BWF to provide forecast services for mission execution products and resource protection services to Minot AFB.

1.6.3.4. Contact information:

1.6.3.4.1. Location/Address: 102 West Losey Street, Scott AFB, IL 62225

1.6.3.4.2. Phone numbers:

1.6.3.4.2.1. Flight Weather Briefer: DSN/Comm: 312-576-9755/618-256-9755

1.6.3.4.2.2. Minot AFB Forecaster: DSN/Comm: 312-576-9695/618-256-9695

1.6.3.4.3. Web portal: **https://15ows.us.af.mil**

1.6.3.4.4. Joint Environmental Toolkit (JET): **https://owsjet15.us.af.mil/portal/private/KMIBWxFlight/Sensor**

1.6.3.5. More details on the interaction between the BWF and the 15 OWS can be found in paragraph 3.5.

## Chapter 2

## MINOT AFB WEATHER FLIGHT

**2.1. Weather Flight Mission.** Provide timely and accurate weather information to Minot AFB to facilitate safe, secure and effective deterrence operations worldwide.

**2.2. BWF Responsibilities.** The Minot AFB BWF is the official source for weather information at Minot AFB and directly provides weather support to peacetime and wartime missions of the 5 BW, 91 MW and associate units. The BWF's services include weather briefings, mission forecasts, weather observations and observed weather warnings/advisories.

**2.3. Duty Priorities.** The Minot AFB BWF will make every effort to satisfy all requests for weather information. However, there are instances where the unit cannot accomplish every request simultaneously. During these times, the BWF will accomplish tasks in a specific order of priority (Table 2.1).

**Table 2.1. Minot BWF Duty Priorities.**

| Priority | Duty |
|---|---|
| 1 | Perform 5 BW and/or 91 MW Emergency War Order (EWO) Taskings. |
| 2 | Execute Emergency Evacuation of the Base Weather Flight. |
| 3 | Provide Real-Time Nuclear Movement Execution Weather Updates. |
| 4 | Respond to Aircraft/Ground Emergencies. |
| 5 | Respond to Pilot to Metro Service (PMSV) Contacts. |
| 6 | Transmit WWAs. |
| 7 | Provide Weather Information for Supervisor of Flying (SOF). |
| 8 | Conduct SWAP Operations. |
| 9 | Augment Automated Meteorological Observing System Observations for Mandatory Elements. |
| 10 | Collaborate with 15 OWS. |
| 11 | Complete Mission Execution Forecast Process -- Produce and Disseminate Forecasts. |
| 12 | Disseminate Urgent PIREPs. |
| 13 | Disseminate PIREPs. |
| 14 | Perform MISSIONWATCH Activities. |
| 15 | Provide Briefings. |
| 16 | Accomplish Weather Functional Training. |
| 17 | Accomplish Administrative Tasks. |

**2.4. Weather Equipment.** The BWF uses a variety of specialized equipment to facilitate effective meteorological support. The equipment currently in use includes:

2.4.1. FMQ-19 Automated Meteorological Station (AMS) – A suite of weather sensors positioned at both ends of the runway are used to measure a variety of meteorological phenomena. The primary sensor is located 500 feet from the centerline and 2,500 feet from

the approach end of runway (RWY) 30. The discontinuity sensor is located 430 feet from the centerline and 1,450 feet from the approach end of RWY 12. The sensor types and runway end location are detailed below (30 is the primary and 12 is the discontinuity):

2.4.1.1. Laser Beam Ceilometer (30/12)

2.4.1.2. Visibility Sensor (30/12)

2.4.1.3. Ambient Light Sensor (30)

2.4.1.4. Precipitation Type (Freezing Rain/Snow/Rain) (30)

2.4.1.5. Lightning Detector (30)

2.4.1.6. Ambient Temperature/Relative Humidity (30)

2.4.1.7. Precipitation Accumulation Gauge (30)

2.4.1.8. Wind Direction/Speed (30/12)

2.4.1.9. Air Pressure (30)

2.4.2. FMQ-22 Automated Meteorological Station (AMS) - A single set of weather sensors positioned at each Missile Alert Facility (MAF) within the 91 MW Missile Complex. The system provides the same information as the FMQ-19 with the exception of an ambient light sensor. Its purpose is to provide real-time data and surface weather observations for enhanced forecasting and mission watch.

2.4.3. WSR-88D Radar (NEXRAD) – An active sensor that provides the BWF with the capability to display, analyze, track and predict position, strength and movement of meteorological phenomena. The NEXRAD is located 18 miles east of Minot AFB, near Deering, ND.

2.4.4. Joint Environmental Toolkit (JET) - A server/web based application that facilitates meteorological situational awareness and enables the issuance of weather watches, warnings, and advisories. In addition, it allows aircrews to add briefing requests via the "missions" tab.

2.4.5. Pilot-to-Metro Service (PMSV) – A Line-of-Sight radio that allows pilots to request meteorological services directly from weather technicians at frequency 342.5 MHZ.

2.4.6. TMQ-53 Tactical Meteorological Observing System (TMOS) - A deployable suite of weather sensors that collect data regarding the present weather condition in its environment. Used for deployments when requested, Response Task Force (RTF) support, or as a backup to the FMQ-19 AMS during prolonged system outages.

2.4.7. Kestrel 4000 – A handheld weather sensor capable of providing wind velocities, temperatures and pressure readings used during short-term FMQ-19 AMS or TMQ-53 sensor outages.

## Chapter 3

## WEATHER FLIGHT INTERAGENCY SUPPORT

**3.1. General.** The Minot AFB BWF provides planning, execution, staff level, and training products and services to various agencies throughout the base. To be effective, the BWF requires various levels of reciprocal support from base units.

**3.2. Command Relationships.** The senior weather officer assigned to the Minot AFB BWF is the Weather Flight Commander assigned to the 5 OSS. The 5 BW maintains operational control over base weather services. However, the BWF will, within operational constraints, provide the same level of support to 91 MW and 582 HG agencies.

**3.3. 5 BW Mission.** Known by its nickname, the Warbirds, the 5th Bomb Wing and its fleet of B-52H Stratofortress bombers serve as part of the Air Force's conventional and strategic combat force as AEF warriors. The men and women of the wing are capable of flying anywhere around the world and delivering a wide range of precision-guided bombs and munitions. Excellence is the daily standard and is echoed by its motto, "Guardians of the Upper Realm."

**3.4. 91 MW Mission.** As one of the Air Force's three operational intercontinental ballistic missile units, the 91st Missile Wing, whose members are known as the Rough Riders, are responsible for defending the United States by maintaining a fleet of 150 Minuteman III missiles located in underground launch facilities scattered across the northwest part of the state.

**3.5. 15 OWS Mission.** The mission of the 15 OWS is to provide weather operations and training to fuse accurate, timely and relevant weather intelligence into every aspect of warfighter mission planning and execution to ensure effective, safe, and efficient regional and global military operations. Some of the products are as follows: weather watches, warnings and advisories (WWAs); Terminal Aerodrome Forecast (TAF); regional and operational-level weather products; mission execution weather products; MISSIONWATCH and flight weather briefings. The 15 OWS is organized, trained, and equipped to conduct weather operations and provide weather products and information for Air Force and Army operations in the NE CONUS AOR.

**3.6. 582 HG Mission.** The 582nd Helicopter Group located at F.E. Warren AFB, WY has operational control of the 54th Helicopter Squadron at Minot AFB, ND. The 54 HS, whose members are known as the Beavers, and its fleet of UH-1N “Hueys” develop and provide combat ready forces to conduct nuclear deterrence and global strike operations to support the President of the United States and Combatant Commanders.

**3.7. Roles and Responsibilities.** Some of the key roles and responsibilities are:

3.7.1. 15 OWS will:

3.7.1.1. Produce and disseminate timely and accurate regional and operational-level weather products and information IAW Air Force instructions/manuals and regional requirements. This includes Terminal Aerodrome Forecasts (TAFs), Forecaster in the Loop (FITL) graphics charts and unit tailored pages. Additionally, the 15 OWS will support Minot BWF’s development of mission execution weather products for specific points and areas such as air refueling routes.

3.7.1.2. Produce and disseminate the Minot TAFs with appropriate specification criteria and amendments IAW Air Force instructions, manuals and published airfield minima.

3.7.1.3. Provide WWAs IAW Air Force instructions, manuals, installation data page and any Minot unique criteria for the purposes of resource protection and flight safety.

3.7.1.4. Disseminate 15 OWS products to designated Minot AFB agencies via standard communication systems (e.g. Non-Secure Internet Protocol Router Network [NIPRNET], SECRET Internet Protocol Router Network [SIPRNET]) and AFW meteorological communication systems (e.g. Integrated Weather Warning Capability [IWWC], JET).

3.7.1.5. Notify Minot BWF of significant degradations of service due to communication or equipment outages, maintenance, or other unforeseen events.

3.7.2. Minot BWF will:

3.7.2.1. Notify 15 OWS of special wartime, contingency, and exercise weather product and information requirements with maximum lead-time.

3.7.2.2. Provide automated, augmented, or manual real-time surface weather observations. Train forecasters as "eyes forward" for OWS forecasters and encourage passing of relevant weather intelligence (i.e. cooperative weather watch, National Weather Service reports, etc.) that may assist in making OWS-produced products more representative and accurate.

3.7.2.3. Monitor Minot area weather conditions and provide feedback/input to the OWS-produced TAF as required.

3.7.2.4. Issue observed weather warnings and advisories during normal duty hours as required to support mission execution activities. Notify 15 OWS when issuing or canceling an observed weather warning or advisory.

3.7.2.5. Ensure procedures are in place identifying the Command Post/Staff Duty Officer as the 24-hour, single point of contact for initially acknowledging receipt of WWAs when Minot BWF is not on duty (hours of operation are listed in para. 1.5.). Coordinate with 15 OWS for any special weather support to include observed weather warnings and advisories that are required while the BWF is closed.

3.7.2.6. Issue or supersede the forecast, forecast weather warnings and/or advisories for Minot when weather conditions pose an immediate threat to life, property or mission execution and there is insufficient time to pre-coordinate such activities with 15 OWS forecasters.

3.7.2.7. Notify 15 OWS when an aircrew reports encountering forecast or un-forecast Urgent (UUA) weather phenomena in the NE CONUS region.

3.7.2.8. Notify 15 OWS of significant service degradations due to communication or equipment outages, maintenance, or other unforeseen events, to include any planned/unplanned evacuations.

3.7.2.9. Assume local TAF and WWAs responsibility during significant 15 OWS communication outages, evacuations, catastrophic events or pre-coordinated exercises of backup procedures (conducted quarterly as a minimum). Note: This will be temporary in

nature and will not extend beyond 72 hours. Beyond hours, 15 OWS will relocate to 557 WW and assume operations for extended outages or transfer support to another OWS.

3.7.2.10. Ensure 15 OWS and AFGSC/A3HW is on OPREP-3 report distribution for severe weather damage (to include winds ≥ 50 knots, hail ≥ 3/4 inch, tornados, lightning strikes, snow ≥ 2 inches, or when requested) impacting Minot AFB IAW AFI 10-229 and AFI 10-206. Send a copy of all OPREP-3 reports for severe weather to **15OWS-SAR@us.af.mil** and **AFGSCA3HW@us.af.mil**.

3.7.2.11. Ensure 15 OWS operations floor is notified when airfield sensors and other vital BWF meteorological or communications equipment becomes inoperable.

3.7.2.12. Collaboration (Eyes Forward).

3.7.2.12.1. Since the 15 OWS is geographically separated from the MAFB Local Flying Area (LFA), the BWF will perform "eyes forward" services for the 15 OWS. This includes, but may not be limited to:

3.7.2.12.1.1. Provide feedback to the 15 OWS to assist in development, dissemination and METWATCH of the TAF.

3.7.2.12.1.2. Monitor weather conditions and notify the 15 OWS of any observed or forecast changes that would necessitate issuance, extension, upgrade, downgrade or cancellation of any weather watches, warnings or advisories.

3.7.2.12.1.3. Collaborate with the 15 OWS for any weather reviews to improve future weather products or services.

**3.8. Reciprocal Support.** The BWF's products and services will be described in detail in **Chapters 4**-7. However, in order to ensure effective weather support, the BWF requires a varying level of reciprocal support from base agencies. This includes, but may not be limited to the following:

3.8.1. 5 BW Staff Agencies will: Notify the BWF of any changes to the 5 BW Standup briefing schedule, format, or method of delivery/dissemination. (OPR: 5 BW/CCE)

3.8.2. 5 OG will:

3.8.2.1. Facilitate access to all flying squadrons' weekly flying schedules. (OPR: 23 BS/69 BS/5 OSS)

3.8.2.2. Notify the BWF of any flight schedule changes.

3.8.2.3. Notify the BWF of any non-mission related briefing requests (IRC, Safety, AOB, etc) NLT 5 duty days prior to the requested briefing date.

3.8.2.4. Provide Mission Execution Forecast (MEF) feedback for all missions.

3.8.3. 5 MSG will:

3.8.3.1. Maintain meteorological equipment in accordance with established Technical Order(s), and established MOA(s). (OPR: 5 CS)

3.8.4. 91 MW Staff Agencies will: Notify the BWF of any changes to the 91 MW Standup briefing schedule, format or method of delivery/dissemination (OPR – 91 MW/CCE).

3.8.5. 91 OG will:

3.8.5.1. Assist BWF with FMQ-22 weather sensor operations by restarting and/or troubleshooting laptops with BWF assistance to ensure sensor data is available on the internet.

3.8.5.2. Notify the BWF of any non-mission related briefing requests (IRC, Safety, etc) NLT 5 duty days prior to the requested briefing date.

3.8.5.3. Provide MEF feedback.

3.8.6. 91 MXG will:

3.8.6.1. Provide the BWF with situational awareness information for mission-essential operations that require weather briefings/services to include but not limited to:

3.8.6.1.1. Time(s)/location(s) of the operation(s).

3.8.6.1.2. Time(s)/location(s) of any preparatory meeting(s) which require BWF participation/attendance.

3.8.6.1.3. Notification of any changes to the above as soon as practical.

3.8.7. 582 HG will:

3.8.7.1. Facilitate access to flying squadron weekly flying schedules. (OPR 54 HS)

3.8.7.2. Notify the BWF of any flight schedule changes.

3.8.7.3. Notify the BWF of any non-mission related briefing requests (IRC, Safety, etc.) NLT 5 duty days prior to the requested briefing date.

3.8.7.4. Provide MEF feedback.

## Chapter 4

## AIRFIELD SUPPORT FUNCTION (ASF)

**4.1. General.** The Minot BWF provides routine real-time forecasting and METWATCH services in support of the operation of the MAFB airfield and the surrounding LFA. The LFA is Classified as the Aerodrome (5NM) up to 10kft.

**4.2. Airfield Weather Services.** The BWF provides various meteorological products and services designed to support flying operations and resource protection. These products and services include, but may not be limited to:

4.2.1. Weather Observations

4.2.2. Weather Watches, Warnings and Advisories

4.2.3. Pilot-to-Metro Service

**4.3. Weather Observations.**

4.3.1. During airfield operating hours, the BWF will disseminate a meteorological observation at the following times:

4.3.1.1. At the top of the hour (METAR).

4.3.1.2. Whenever specific airfield or mission limiting weather thresholds are crossed (SPECI criteria found in Attachment 3).

4.3.1.3. Upon notification of an aircraft mishap (LOCAL only).

4.3.2. The BWF will use the FMQ-19 AMS IAW AFMAN 15-111 to collect and disseminate meteorological observations.

4.3.3. BWF personnel will allow the FMQ-19 to operate in its fully automated mode except in the following instances:

4.3.3.1. When weather phenomena occur that are beyond the observation capabilities of the FMQ-19. This is known as supplementing the FMQ-19.

4.3.3.1.1. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the FMQ-19 to detect and/or report. The BWF will follow procedures drawn from AFMAN15-111 para. 3.3. when supplementing. The BWF will be ready to supplement the FMQ-19 when the below criteria is forecasted to occur within 1 hour and the airfield is open:

4.3.3.1.1.1. Tornado (+FC)

4.3.3.1.1.2. Funnel Cloud (FC)

4.3.3.1.1.2.1. Beginning/ending time, location and direction of movement will be noted in the remarks section of the observation.

4.3.3.1.1.3. Waterspout (+FC)

4.3.3.1.1.4. Hail (GR) (GTE 3/4")

4.3.3.1.1.5. Volcanic Ash (VA)

4.3.3.1.1.6. Ice Pellets (PL) (only during airfield operating hours)

4.3.3.1.1.7. Snow Depth (only during airfield operating hours)

4.3.3.1.1.8. Tower Visibility, when the prevailing visibility at the usual point of observation or at the tower level is less than 4 statute miles and the visibility at the primary observing location and the control tower differs by at least one reportable value.

4.3.3.2. When the FMQ-19 system or parts of the system are not operational or unavailable due to sensor or communication failure. This is known as back-up of the FMQ-19.

4.3.3.2.1. Back-up is the method of manually providing meteorological data and/or dissemination to an AMS observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure. The BWF will follow procedures derived from AFMAN15-111 para. 3.4. – 3.5. when backing up the FMQ-19.

4.3.3.2.2. If the system/sensor(s) is/are not operational or unavailable due to sensor and/or communication failure. BWF personnel will make every attempt to immediately log out any broken equipment, except when immediate flight safety (i.e., in-flight emergency) warrants otherwise. BWF personnel are not required to log a system out if a deficiency report is currently published by 557 WW, or back-up is required to due to a system re-start.

**4.4. Weather Watches, Warnings and Advisories (WWA).** To facilitate situational awareness and resource protection, the BWF monitors meteorological phenomena on Minot AFB, the Local Flying Area (LFA) and the 91 MW Missile Complex (MC) for a specific list of significant weather criteria that may cause damage to aircraft/resources, pose hazards to personnel or negatively impact normal operations. When these conditions occur or are forecast to occur, the BWF will issue a weather watch, warning, and/or advisory (whichever applies) and notify the affected agencies. (See Attachment 4 for weather criteria that warrant a WWA.)

4.4.1. Limited-duty Support - When the BWF is closed, the 15 OWS will assume the responsibility to issue, extend, or cancel any appropriate WWA IAW the current OWS-BWF Installation Data Page. The OWS will follow the coordinated procedures to notify the standby weather forecaster and all necessary agencies of all WWAs issued, extended, or canceled during the BWF closure.

4.4.2. Notification/Dissemination Procedures - Issued WWA will be transmitted through JET and confirmation of the WWA with occur with all major base C2 agencies as highlighted in Attachment 2 via telephone.

4.4.2.1. The 5 BW/CP will ensure all mission-essential personnel receive notification of all lightning watches/warnings via the Giant Voice (or an equivalent notification system) as necessary.

4.4.2.2. The 5 BW/CP will ensure that all base personnel receive notification of all tornado warnings via the base-wide siren warning.

4.4.3. Unit Response Actions - Upon receipt of a WWA, Minot base agencies may modify, suspend or terminate their operations for the entire, or part of the duration of the WWA. The

BWF acknowledges that the existence of a WWA may impact a base agency's ability to perform their mission. Attachment 6 documents significant response actions that agencies take upon the issuance of each related WWA.

**4.5. Cooperative Weather Watch.** The BWF and the ATC Tower will collaborate to maintain situational awareness of meteorological conditions in the LFA. This collaboration effort will include efforts from both the BWF and the ATC Tower.

4.5.1. The BWF will:

4.5.1.1. Facilitate/provide meteorological observations to ATC personnel.

4.5.1.2. Provide limited observation training to ATC personnel.

4.5.2. The AM/ATC flights will:

4.5.2.1. Notify the BWF of any PIREPs received through ATC radio frequencies.

4.5.2.2. Provide BWF with tower visibility observations any time when either the surface prevailing visibility or the control tower visibility is less than 4 statute miles (6000 meters) and the control tower visibility is different than the surface prevailing visibility by a reportable value.

4.5.2.3. Provide the BWF observations of any significant meteorological parameters/thresholds that may impact flying operations not documented in local observations.

4.5.2.4. Monitor the PMSV, as able, when the BWF's radio is out of service or unavailable.

4.5.3. 91st OG Facility Managers:

4.5.3.1. Will notify the on duty weather forecaster within 15 minutes if any of the following phenomenon are known to be occurring with the flight area: tornadoes, funnel clouds, large hail, or any other condition that, in the opinion of the Facility Manager, is a significant danger to other personnel or assets within the 91st Missile Wing AOR or to Minot AFB.

4.5.3.2. Are not certified weather observers and are not expected to deviate from the course of their normal duties, nor put themselves at risk, to collect weather information.

4.5.4. Specific details of the Cooperative Weather Watch are documented in an OSA/OSW Ops letter, maintained by 5 OSS/OSA.

**4.6. Pilot-to-Metro Service (PMSV).** The BWF continuously monitors a PMSV radio during operating hours at a frequency of 342.5MHZ. The range is approximately 200 nm at or above a flight level of 20,000 ft. It is the primary means of disseminating weather information to airborne aircraft. Aircrews are encouraged to contact the BWF on this frequency for landing weather, pilot reports, hazardous en route weather, or other weather information as necessary/requested. The BWF will operate the PMSV IAW AFMAN 15-129V2 para. 3.3.

**4.7. Terminal Aerodrome Forecasts (TAFs).** The BWF will ensure that there is a current TAF issued for MAFB whenever the airfield is open and/or there are active flying operations.

4.7.1. The 15 OWS is the office of primary responsibility for issuing the TAF.

4.7.1.1. The BWF will issue the TAF whenever the 15 OWS incurs an outage that will impact their ability to perform their normal operations, with advanced coordination with 15 OWS personnel, or at any other instance as specified in the current BWF-15 OWS Installation Data page.

4.7.2. The 15 OWS (or BWF, if necessary) will issue and amend the TAF IAW guidelines set in AFMAN 15-129V1, 3.4.3 and table 3.8. Additional information is listed in the BWF-15 OWS Installation Data Page.

## Chapter 5

## MISSION INTEGRATION FUNCTION (MIF)

**5.1. General** . The Minot BWF provides numerous meteorological products and services to MAFB flying units and 91 MW maintenance operations. This includes, but is not limited to, mission execution forecasts, planning weather forecasts, routine and special weather updates, and continuous meteorological watch of MAFB operations.

**5.2. Mission Execution Forecasts (MEFs).** The Minot BWF will provide a MEF for each MAFB flying sortie based on the posted flying schedule. The content, format and delivery method for each MEF will vary depending on the supported unit. Missions not listed on schedules will be supported; however, they will be incorporated into the duty priority list (Table 2.1) and completed as the workload allows.

5.2.1. 5 OG

5.2.1.1. The BWF will provide a MEF for each B-52 sortie, or formation (classified as two or more aircraft performing the same mission profile at the same time).

5.2.1.2. The MEF will include takeoff/recovery weather, en route hazards, space weather impacts, air-refueling (AR) forecasts, target area forecasts and low-level forecasts (as applicable). Other elements, such as TAWS/TDA data, may be added based on mission profile or by prior special request.

5.2.1.3. The MEF will generally be delivered via an electronic MEF worksheet with a verbal briefing of any additional/modified elements via telephone. The MEF may also be delivered in person, if manning permits, upon request.

5.2.2. 582 HG

5.2.2.1. The BWF will provide a MEF for each helicopter sortie, or group of simultaneous sorties. Holiday and weekend missions will be supported by 15 OWS during BWF closure.

5.2.2.2. The MEF will include takeoff/recovery weather, local flying area hazards, and other elements based on mission profile.

5.2.2.3. The MEF will generally be delivered via an electronic MEF worksheet with a verbal briefing of any additional/modified elements via telephone. The MEF may also be delivered in person, if manning permits, upon request.

5.2.3. 91 MW (740 MS/741 MS/742 MS/91 SFG/91 MXG)

5.2.3.1. The BWF will provide weather slides for each crew change brief. A briefer will be provided on normal duty days.

5.2.3.1.1. The brief will include wind, temperature, precipitation and hazard forecasts as well as any other forecast element that may be pertinent.

5.2.3.2. The BWF will provide weather slides and a telephonic weather briefing for the day-of execution of any 91 MW major maintenance operation. Execution slides will be posted NLT 0530L. A final go/no-go call will be given on the morning of the mission via telephone during inclement weather.

5.2.3.2.1. Execution slides will mirror the planning slides as described in **Chapter 6** para. 6.4.

5.2.4. Changes - One-time changes can be worked through the duty forecaster. Permanent changes must be addressed through BWF leadership to be incorporated into this document.

**5.3. Planning Weather Forecasts (PWFs).** The BWF will provide PWFs to Minot AFB units as required/requested to assist with the mission planning process.

5.3.1. 5 OG

5.3.1.1. The BWF will provide a PWF to 23 BS and 69 BS mission planners on a daily basis when flying is scheduled the next day.

5.3.1.2. The PWF will include anticipated takeoff/recovery weather, forecasts at coordinated alternate locations and forecasts for all target areas, AR tracks, and low levels for the next day's scheduled flying operations.

5.3.1.3. The PWF will generally be delivered electronically to SharePoint.

5.3.2. 582 HG

5.3.2.1. The BWF will provide solar/lunar/illumination data to the 54 HS mission planners on a daily basis as part of the MEF.

5.3.3. 91 MW (740 MS/741 MS/742 MS/91 SFG/91 MXG)

5.3.3.1. The PWF for 91 MW major maintenance operations is described in **Chapter 6** para. 6.4.

5.3.4. General Minot AFB Planning Forecasts

5.3.4.1. Extended outlooks

5.3.4.1.1. The BWF will provide an extended weather outlook for general planning purposes every duty day with updates as necessary.

5.3.4.1.2. The extended outlook will include a general weather forecast, high/low temperature forecasts, wind forecasts and a stoplight chart/text description of any mission impacts expected due to weather.

5.3.4.1.3. The extended outlook will be posted to SharePoint.

5.3.4.2. Equivalent Chill Temp (ECT) Planning Forecasts

5.3.4.2.1. When wind chill temperatures are, or are forecast to be $\leq$-25°F within 24 hours, the BWF will publish an ECT planning forecast once every 24 hours for the duration of the cold weather event.

5.3.4.2.2. The ECT planning forecast will include a breakdown of what the expected wind chill temperature will be on an hourly basis for the first 36 hours, as well as a summary of the maximum and minimum daily wind chill that is forecast for the valid period.

5.3.4.2.3. The ECT planning forecast will be delivered via email to an established distribution list and posted to SharePoint.

5.3.5. Changes - One-time changes can be worked through the duty forecaster. Permanent changes must be addressed through BWF leadership to be incorporated into this document.

**5.4. Meteorological Watch (METWATCH/MISSIONWATCH).**

5.4.1. METWATCH - The BWF will actively track any weather conditions that will affect Minot AFB, the LFA or the missile complex. The BWF will amend/update any products in effect (TAFs, MEFs, and PWFs) as necessary that become unrepresentative of the current/forecast conditions. Another element of METWATCH is the issuance, extension, cancellation or expiration of any applicable WWAs. Specific WWA criteria is covered in Attachment 4 of this document.

5.4.2. MISSIONWATCH - The BWF will also actively track any changes to any MEF during each respective mission (e.g. B-52 sortie, UH-1N sortie, 91 MW maintenance operation, etc.). Any weather conditions that cross mission-limiting thresholds or any un-forecast weather condition that occurs or is expected to occur that will affect each mission will necessitate an update/amendment to the MEF. The BWF will, IAW locally developed procedures, contact the affected units with an updated forecast when any of these changes are made.

5.4.3. See Attachment 5 for currently documented mission-limiting thresholds for the varying MAFB units.

## Chapter 6

## STAFF WEATHER SUPPORT

**6.1. General.** The Minot BWF provides a variety of staff level weather products and services to facilitate situational awareness of upcoming weather events, as well as satisfy training and maintenance requirements.

6.1.1. Any one-time changes to schedule or content of a briefing can be worked through the duty forecaster. However, permanent changes to schedule or content must be addressed through BWF leadership to be incorporated into this document.

**6.2. 5 BW Standup Briefings.** The BWF will ensure weather slides are posted to SharePoint NLT 1100. The 5 OSS CC or DO will brief the weather unless a weather representative is requested during hazardous weather.

6.2.1. The briefing format will include, but is not limited to, a radar image with lightning, Minot AFB extended outlook, hemispheric satellite image and Pacific outlook during CBP operations and extended outlooks from any B-52 deployed location.

**6.3. 5 BW Staff Meetings.** The BWF will ensure weather slides are emailed to the 5 BW Executive Officer in time for all scheduled staff meetings, usually held every other Thursday morning at 0800L. The BWF will provide weather briefer when manning allows. The 5 OSS CC or DO will brief the weather if a representative cannot attend.

6.3.1. The briefing format will include, but is not limited to, a graphical weather depiction chart and an extended (normally 3-day) outlook.

**6.4. 91 MW Maintenance Operations Planning Briefings.** The BWF will provide the 91 MXG with a planning weather briefing for all scheduled major maintenance operations.

6.4.1. The briefing slide format will consist of a forecast graphical weather depiction chart, 3-day outlook and a go-no go slide based on set criteria.

6.4.2. The briefing will be posted for the 91 MW POCs via SharePoint. Planning slides will be posted NLT 4 hours prior to the scheduled briefing. A weather briefer will provide an in-person weather assessment, as well a go/no-go call based off of forecast conditions and mission profile.

**6.5. 91 MW Code Change Operations Planning Briefings.** The BWF will provide the 91 MW with a planning weather briefing for all scheduled code change operations. The BWF will provide a weather briefer as manning and duty priorities permit (Table 2.1).

6.5.1. The briefing format will consist of a four-panel slide based on climatology that includes winds, temperature, precipitation, and thunderstorm days.

6.5.2. The briefing will be delivered to the 91 MW code change POCs via an electronic mail the day prior to the scheduled briefing.

**6.6. Pre-Special Assignment Airlift Mission (Pre-SAAM) and Department of Energy (DOE) Mission Briefings.** The BWF will normally provide 705 MUNS with a planning weather briefing for all scheduled SAAM and DOE missions.

6.6.1. The briefing will consist of an extended outlook. 705 MUNS will access the extended outlook from SharePoint.

6.6.2. The briefing will be delivered to a pre-determined POC for the 705 MUNS, or designated representative. The BWF will provide a weather briefer as manning and duty priorities permit (Table 2.1).

**6.7. Instrument Refresher Course (IRC) Briefings.** The BWF, as required, will provide all 5 BW and 582 HG aircrew with a weather briefing as part of recurring IRC requirements.

6.7.1. The briefing format will include local area weather regimes, generic weather patterns and associated weather hazards, observation code, BWF products and occasionally a special interest item designed to emphasize a particular topic.

6.7.2. The briefing will be delivered to a pre-arranged POC at the respective flying squadron via email or a coordinated shared drive location.

**6.8. Miscellaneous Requests.** The BWF will attempt to satisfy any reasonable request for weather support or information not specifically outlined in this document on an "as time permits" basis.

6.8.1. Special Events Forecasts - The BWF will provide planning weather forecasts to base agencies/organizations for special events, such as picnics, formations, etc., as required.

6.8.1.1. The content, delivery and timing of the forecasts will be determined on a case by case basis and will be coordinated through the duty forecaster and BWF leadership.

6.8.2. Climatology - The BWF will provide base agencies with climatology data (winds, temperature, precipitation, etc), as required.

## Chapter 7

## CONTINGENCY SUPPORT

**7.1. General.** The Minot BWF will provide products, services and personnel to support planned and unplanned contingency events. This includes, but is not limited to emergency war orders/taskings, operations and contingency plans (OPLANs and CONPLANs), deployments, strategic aircraft generations, exercises, natural disasters, and severe weather events.

**7.2. Expeditionary Weather Requirements.**

7.2.1. The BWF will ensure that weather personnel are fully qualified to support contingency/expeditionary operations.

7.2.2. The 5 OSS Unit Deployment Manager (UDM) will maintain the mobility records for all BWF personnel.

7.2.3. The 5 OSS UDM will ensure that BWF personnel are scheduled for any non-weather related training events to maintain deployment readiness.

**7.3. OPLAN/CONPLAN Support.**

7.3.1. The BWF will provide environmental products and services in accordance with any unit level or higher OPLAN or CONPLAN.

7.3.2. Base agencies will coordinate with the BWF whenever an OPLAN or CONPLAN is revised or created that requires weather input.

**7.4. Pre-deployment Weather Support.**

7.4.1. The BWF will provide pre-deployment services to MAFB. These services include:

7.4.1.1. Mobility Concept Brief

7.4.1.1.1. The BWF will provide a planning weather brief (usually an extended outlook) of the likely/tasked deployment location(s) for UDM use for deployment planning.

7.4.1.1.2. The brief will be delivered via email with coordination with 5 LRS/IDO.

7.4.1.2. Pre-Deployment/Deployment Brief

7.4.1.2.1. The BWF will provide a PWF and then a MEF for all deployment sorties from Minot AFB.

7.4.1.2.2. The briefing will follow the MEF format detailed in **Chapter 5** para. 5.2., with extra products added to facilitate mission success.

**7.5. Alert Force/Aircraft Generation Support.**

7.5.1. The BWF will provide an assumption of alert briefing to aircrew members upon request, and then deliver an update once every 12 hours until the alert status is no longer necessary.

7.5.2. The content of the briefing will include all elements necessary for a sortie to a known location or area. This will include, but is not limited to, takeoff and landing forecasts,

alternate airfield forecasts, en-route winds and weather hazards expected within the 12-hour period following the brief time.

7.5.3. The briefing will be delivered via a coordinated method, with a shared drive location being the preferred method. Email and fax are also acceptable methods of delivery. A weather forecaster will provide an in-person briefing at the alert facility (or at another pre-determined location) if required and as manning and mission permit.

7.5.4. The 5 OSS Nuclear Plans Flight (A5N) will provide the BWF as much information about possible destinations as possible to aid in tailoring the information to the aircrews' specific needs.

**7.6. Bomber Strategic Aircraft Regeneration Team (BSART).**

7.6.1. In the event of a deployment of the BSART, real world or exercise, the BWF will provide the required personnel and equipment as needed when manning allows.

7.6.1.1. If real world, the BWF will evaluate the BSART requirements relative to the remaining home station support needed before submitting any shortfalls to the 5 OSS UDM.

7.6.1.2. If exercise, the BWF will evaluate the BSART requirements relative to the current manning situation (i.e. available versus assigned) before submitting any shortfalls to the 5 OSS UDM.

**7.7. Crisis Action Team (CAT)/Missile Response Cell (MRC) Weather Support.**

7.7.1. In the event of a recall of the full or restricted CAT/MRC, or upon specific request by the 5 BW CAT Director (or 91 MW equivalent), the BWF will provide a weather briefing to the CAT/MRC.

7.7.1.1. The format of the briefing will vary depending on the specific situation. However, it will generally follow the format of the Standup brief detailed in **Chapter 6**, para. 6.2. It may include additional information depending on the scenario and/or specific request.

7.7.1.2. The briefing will be delivered to the CAT/MRC via email (NIPR/SIPR), shared drive (NIPR/SIPR), portable media or another pre-coordinated method.

7.7.1.3. A weather representative will attend the CAT/MRC meetings as manning and duty priorities permit.

**7.8. Severe Weather Action Procedures (SWAP).** The BWF will augment their operational manning to support additional METWATCH during forecast and observed severe weather conditions.

7.8.1. The BWF will enact SWAP whenever the following conditions are forecast to occur or are observed on Minot AFB or the 91st Missile Wing missile complex:

7.8.1.1. Severe Thunderstorm Warning (Wind gusts $\geq$ 50kt and/or Hail $\geq$ 3/4")

7.8.1.2. Tornadoes.

7.8.1.3. Any other condition requiring additional weather personnel to support.

7.8.2. The BWF will execute the following steps whenever SWAP is instituted:

7.8.2.1. Notify BWF leadership of the situation (via telephone recall if during standby hours).

7.8.2.2. Recall additional personnel to duty if the situation warrants.

7.8.2.3. Ensure all applicable WWA's are issued by BWF or 15 OWS personnel.

7.8.2.4. Intensify METWATCH of all-weather parameters IAW SWAP checklists.

7.8.3. After the meteorological threat has passed, the BWF will perform a review of the event, including submitting data to the CP for an OPREP-3 if requested/required.

**7.9. Emergency/Crisis Action Response.**

7.9.1. The BWF will be prepared to respond to any number of natural/unnatural disasters/emergencies. These emergencies include but are not limited to:

7.9.1.1. Earthquakes.

7.9.1.2. Flash Flood/Flood.

7.9.1.3. Chemical Spill – Chemical Downwind Message produced every 6 hours and passed to Command Post for base dispersal.

7.9.1.4. Nuclear Fallout – Chemical Downwind Message produced every 6 hours and passed to Command Post for base dispersal.

7.9.1.5. Any other disaster that requires support.

7.9.2. The BWF will respond IAW 5 BW IEMP 10-2 for any natural disaster that impacts Minot AFB or the local area.

**7.10. OPREP-3 Reports.** The BWF will provide the 5 BW/CP with an OPREP-3 report if requested/required.

7.10.1. The BWF will provide data for an OPREP-3 whenever the following weather conditions result in damage to base resources:

7.10.1.1. Winds $\geq$ 50kt.

7.10.1.2. Hail $\geq$ 3/4".

7.10.1.3. Tornadoes.

7.10.1.4. Lightning strikes.

7.10.1.5. Snow > 2" accumulation within 6 hours.

7.10.2. The BWF will provide the 5 BW/CP with, at a minimum, the following information:

7.10.2.1. Weather observations and forecasts for the pertinent period.

7.10.2.2. All WWA's issued/valid for the pertinent period.

7.10.2.3. Status of all-weather equipment and connectivity during and after the pertinent period.

7.10.2.4. Any other information specifically requested by the CP.

## Chapter 8

## RECIPROCAL SUPPORT

**8.1. General.** The support provided by the Minot BWF requires reciprocal support from various agencies on Minot AFB. To ensure document currency and flexibility, the Memorandum(s) of Agreement (MOA(s)) with affected agencies will be maintained as independent documents.

MATTHEW R. BROOKS, Colonel, USAF
Commander, 5th Bomb Wing

**Attachment 1**

**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION**

***References***

AFI 10-206, *Operational Reporting*, 11 June 2014

AFI 10-229, *Responding to Severe Weather Events*, 15 Oct 2003

AFI 15-128, *Air Force Weather Roles and Responsibilities*, 07 February 2011

AFMAN 15-111 IC 1, *Surface Weather Observations*, 27 February 2013

AFMAN 15-129, Vol 1, *Air and Space Weather Operations – Characterizations*, 06 December 2011

AFMAN 15-129, Vol 2, *Air and Space Weather Operations – Exploitation*, 07 December 2011

AFMAN 33-360, *Publications and Forms Management*, 01 December 2015

AFPD 15-1, *Air Force Weather Operations*, 12 November 2015

IEMP 10-2, *Installation Emergency Management Plan*, 28 May 2015

***Abbreviations and Acronyms***

**AFB** —Air Force Base

**AM** —Airfield Management

**AMS** —Automated Meteorological Station

**AOR** —Area of Responsibility

**ATC** —Air Traffic Control

**BS** —Bomb Squadron

**BSART** —Bomber Strategic Aircraft Recovery Team

**BW** —Bomb Wing

**BWF** —Base Weather Flight

**CAT** —Crisis Action Team

**CONPLAN** —Contingency Plan

**CP** —Command Post

**DLT – Desired Lead**—Time

**DoD** —Department of Defense

**DOE** —Department of Energy

**ECT** —Equivalent Chill Temp

**ESL** —Emergency Staffing Level

**EWO** —Emergency War Orders

**FITL** ––Forecaster in the Loop

**HG**—Helicopter Group

**HS** ––Helicopter Squadron

**IAW** ––In Accordance With

**IFR** ––Instrument Flight Rules

**IRC** ––Instrument Refresher Course

**IWWC** ––Integrated Weather Warning Capability

**JET** ––Joint Environmental Toolkit

**LFA** ––Local Flying Area

**LT** ––Local Time

**MAFB** ––Minot AFB

**MC** ––Missile Complex

**MEF** ––Mission Execution Forecast

**METAR** ––Aviation Routine Weather Report

**METWATCH** ––Meteorological Watch

**MOA** ––Memorandum of Agreement

**MRC** ––Missile Response Cell

**MW** ––Missile Wing

**NLT** ––No Later Than

**NE CONUS** ––North Eastern Continental United States

**OPLAN** ––Operations Plan

**OPREP** ––Operational Report

**OSS** ––Operations Support Squadron

**OWS** ––Operational Weather Squadron

**PIREP** ––Pilot Report

**PMSV – Pilot-to**—Metro Service (PMSV)

**POC** ––Point of Contact

**PWF** ––Planning Weather Forecast

**SAAM** ––Special Assignment Airlift Mission

**SOF** ––Supervisor of Flying

**SPECI** ––Special Criteria

**SWAP** ––Severe Weather Action Procedures

**TAF** —Terminal Aerodrome Forecast

**TAWS** —Target Acquisition Weapons Software

**UDM** —Unit Deployment Manager

**UUA** —Urgent PIREP

**WA** —Weather Advisory

**WWA** —Watches, Warnings, and Advisories

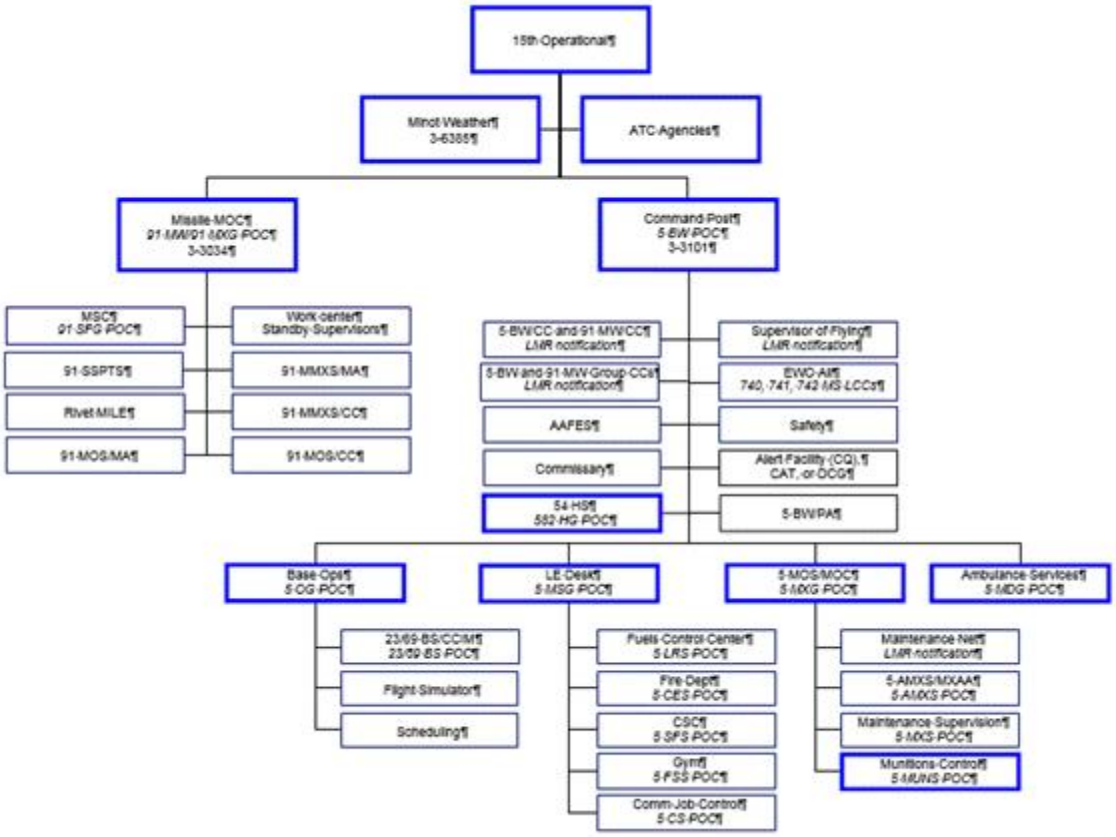
**WW** —Weather Warning

## Attachment 2

## WEATHER WATCH, WARNING AND ADVISORY NOTIFICATION

**A2.1. General.** The following details the notification process the BWF follows whenever a weather watch, warning or advisory is issued, upgraded, downgraded, extended or cancelled.

**Figure A2.1. BWF Weather Watch, Warning, and Advisory Notification System.**



## Attachment 3

## SPECI CRITERIA

**A3.1. General.** The following details the SPECI criteria the BWF will observe and the observation type they qualify under.

**A3.2.** The following SPECI criteria are IAW AFMAN 15-111. Additional SPECI criteria will be IAW Federal Aviation Administration United States Terminal Procedures, North Central, Vol. 1, DoD Flight Information Publication (Terminal), Low Altitude, Vol. 7, and all other applicable flying instructions and publications.

**Table A3.1. BWF Observation SPECI Criteria.**

| Phenomena | Threshold | Qualifier | Observation Type (A, S, B) |
|---|---|---|---|
| Visibility | 3 mi/4800 m | Decrease: To Less than<br>Increase: To Equal to or Greater than | A,S,B |
| | 2 mi/3200 m | | |
| | 1 ½ mi/2400 m | | |
| | 1 mi/1600 m | | |
| | ¾ mi/1200 m | | |
| | ½ mi/0800 m | | |
| | ¼ mi/0400 m | | |
| Ceiling | 2,000 ft | Forms or Dissipates<br>Decrease: To Less than<br>Increase: To Equal to or Greater than | A,B |
| | 1,500 ft | | |
| | 1,000 ft | | |
| | 800 ft | | |
| | 700 ft | | |
| | 600 ft | | |
| | 500 ft | | |
| | 400 ft | | |
| | 200 ft | | |
| Sky Condition | 600 ft | Layer (FEW,SCT,BKN, OVC) forms at or below stated threshold when not previously observed. | A,B |
| Wind Shift | Occurrence | Wind Direction changes by $\geq$ 45° in less than 15min, with wind speed $\geq$ 10kt | A,B |
| Squall | Occurrence | The average 2-minute wind speed suddenly increases at least 16 knots and is sustained at 22 knots or more for at least one minute | A,B |
| Volcanic Eruption | Occurrence | First observed | S |
| Thunderstorm | Begins/Ends (15 min aft last thunder heard) | SPECI not required if one in occurrence when a new one begins. | A,B |

| | | | |
|---|---|---|---|
| Precipitation | Hail | Begins/Ends | S |
| | Freezing Precipitation | Begins/Ends/Changes intensity | A,B |
| | Ice Pellets | Begin/End/Change intensity | S |
| | Rain/Snow/Etc | Begins/Ends | A,B |
| Tornado/ Funnel Cloud | Begins/Ends/Moves out of site | When observed | S |
| Runway Visual Range (RVR) | Prevailing Visibility 1mi/1600meters | Decreases: To equal to or less than<br>Increases: To above | A,B |
| Observed RVR | 6,000 ft | Highest value during the preceding 10min<br>Decreases: To Less than<br>Increases: To Equal to or Greater than | A,B |
| | 5,000 ft | | |
| | 4,000 ft | | |
| | 2,400 ft | | |
| | 2,000 ft | | |
| | 1,200 ft | | |
| RVR Outage | Not available (RVRNO) | First determined as unavailable; when RVRNO is no longer applicable (if RVR is required at that time) | A,B |
| Tower Visibility | Surface or Tower visibility is less than 4 statute miles (6,000 meters) | (1) Upon receipt of a reportable tower visibility value when either the surface prevailing visibility or the control tower visibility is less than 4 statute miles (6000 meters) and the control tower visibility is lower than the surface prevailing visibility by a reportable value.<br>(2) When tower visibility changes by a reportable threshold and the conditions in (1) are still met.<br>Transmit a SPECI to remove the tower visibility remark when control tower visibility increases to equal or exceed surface prevailing visibility or both increase to equal or exceed 4 statute miles (6000 meters). | S |
| Resumption of Observing | After a period where no observations were taken. | Within 15 min of resumption of observation duties, unless a METAR is taken during that period | S,B |
| Aircraft Mishap | Occurrence | Upon notification/sighting of an aircraft mishap near the observing station. Not applicable if a METAR/SPECI has already been disseminated at the same time. | S |

A – Automated mode; S – Supplement/Augmented Mode; B – Backup/Outage Mode

## Attachment 4

## WEATHER WATCHES, WARNINGS AND ADVISORIES

**A4.1. General.** The following details the WWAs the BWF issues for Minot AFB, the LFA, and the MCs.

A4.1.1. WWAs issued for Minot AFB and Local Flying Area

**Figure A4.1. Weather Advisories Issued for Minot AFB and Local Flying Area.**

| Weather Advisories | | | |
|---|---|---|---|
| **Criteria** | **Forecast/Observed** | **Desired Lead Time** | **Issued By** |
| Wind Chill LTE 15°F | Observed | N/A | WF* |
| Wind Chill LTE -5°F | Observed | N/A | WF* |
| Wind Chill LTE -25°F | Observed | N/A | WF* |
| Wind Chill LTE -45°F | Observed | N/A | WF* |
| Winds GTE 30 kts | Observed | N/A | WF* |
| Crosswinds GTE 15 kts w/ Wet Runway | Observed | N/A | WF |
| Crosswinds GTE 25 kts w/ Wet Runway | Observed | N/A | WF |
| Crosswinds GTE 45 kts | Observed | N/A | WF |
| Visibility LTE 1/4 SM | Observed | N/A | WF* |
| Lightning within 10 NM | Observed | N/A | WF* |
| Ice FOD (Temp <=47F w/VIS <=1SM or DPD <=4F or visible moisture present | Observed | N/A | WF* |

**Figure A4.2. Weather Watches Issued for Minot AFB and Local Flying Area.**

| Weather Watches | | | |
|---|---|---|---|
| **Watch Type** | **Criteria** | **Desired Lead Time** | **Issued By** |
| Tornado | within 5NM | As potential warrants | OWS |
| Severe Thunderstorms<br>Damaging Hail<br>Damaging Winds | GTE 3/4 inch and/or<br>GTE 50 kts | As potential warrants | OWS |
| Damaging Winds | GTE 50 kts not associated w/ thunderstorms | As potential warrants | OWS |
| Freezing Precipitation | Any Intensity | As potential warrants | OWS |
| Blizzard | Duration GTE 3 hrs, sustained winds/gusts GTE 30 kts, considerable falling and/or blowing snow, with prevailing visibility LTE 1/4 SM (all criteria must be met) | As potential warrants | OWS |
| Heavy Rain | GTE 2 inch accumulation within 12 hours | As potential warrants | OWS |
| Heavy Snow | GTE 2 inch accumulation within 6 hours | As potential warrants | OWS |
| Lightning | within 5NM | 30 Minutes | OWS |

**Figure A4.3. Weather Warnings Issued for Minot AFB and Local Flying Area.**

| Weather Warnings | | | |
|---|---|---|---|
| **Warning Type** | **Criteria** | **Desired Lead Time** | **Issued By** |
| Tornado | expected within 5NM | 10 minutes | OWS |
| Severe Thunderstorms<br>Damaging Hail<br>Damaging Winds | GTE 3/4 inch and/or<br>GTE 50 kts | 1 hour | OWS |
| Moderate Thunderstorms<br>Large Hail<br>Strong Winds | GTE 1/4 inch but LT 3/4 inch and/or<br>GTE 35 kts but LT 50 kts | 1 hour | OWS |
| Damaging Winds | GTE 50 kts not associated w/ thunderstorms | 1 hour | OWS |
| Strong Winds | GTE 35 kts but LT 50 kts not associated w/ thunderstorms | 1 hour | OWS |
| Freezing Precipitation | Any Intensity | 1 hour | OWS |
| Heavy Rain | GTE 2 inch accumulation within 12 hours | 1 hour | OWS |
| Heavy Snow | GTE 2 inch accumulation within 6 hours | 1 hour | OWS |
| Blizzard | Duration GTE 3 hrs, sustained winds/gusts GTE 30 kts, considerable falling and/or blowing snow, with prevailing visibility LTE 1/4 SM (all criteria must be met) | 1 hour | OWS |
| Lightning | within 5NM | N/A | WF* |

A4.1.1.1. Observed Warnings and advisories with an asterisk (*) will be issued by BWF personnel when the BWF is open. The 15 OWS will issue observed warnings and advisories when the BWF is closed.

A4.1.2. WWAs issued for 91 MW Complex

**Figure A4.4. Weather Advisories Issued for 91 MW Complex.**

| Weather Advisories | | | |
|---|---|---|---|
| **Criteria** | **Forecast/Observed** | **Desired Lead Time** | **Issued By** |
| Wind Chill LTE 15°F | Observed | N/A | WF* |
| Wind Chill LTE -5°F | Observed | N/A | WF* |
| Wind Chill LTE -25°F | Observed | N/A | WF* |
| Wind Chill LTE -45°F | Observed | N/A | WF* |
| Turbulence > Moderate (CAT 1 Aircraft) | Observed | N/A | WF** |
| Icing (Any Intensity) | Observed | N/A | WF** |

**Figure A4.5. Weather Watches Issued for the 740th, 741st, 742nd Missile Squadrons.**

| Weather Watches | | | |
|---|---|---|---|
| **Watch Type** | **Criteria** | **Desired Lead Time** | **Issued By** |
| Tornado | within the 740th MS | As potential warrants | OWS |
| Severe Thunderstorms<br>Damaging Hail<br>Damaging Winds | GTE 3/4 inch and/or<br>Sustained Winds GTE 45kts and/or Gusts GTE 52kts | As potential warrants | OWS |
| Damaging Winds (Level 2) | Sustained Winds GTE 45kts and/or Gusts GTE 52kts | As potential warrants | OWS |
| Freezing Precipitation | Any Intensity | As potential warrants | OWS |
| Blizzard | Duration GTE 3 hrs, sustained winds/gusts GTE 30 kts, considerable falling and/or blowing snow, with prevailing visibility LTE 1/4 SM (all criteria must be met) | As potential warrants | OWS |
| Heavy Rain | GTE 2 inch accumulation within 12 hours | As potential warrants | OWS |
| Heavy Snow | GTE 2 inch accumulation within 6 hours | As potential warrants | OWS |
| Lightning | within the 740th MS | 30 minutes | OWS |

**Figure A4.6. Weather Warnings Issued for the 740th, 741st, 742nd Missile Squadrons.**

| Weather Warnings | | | |
|---|---|---|---|
| **Warning Type** | **Criteria** | **Desired Lead Time** | **Issued By** |
| Tornado | expected within the 740th MS | 10 minutes | OWS |
| Severe Thunderstorms<br>Damaging Hail<br>Damaging Winds | GTE 3/4 inch and/or<br>Sustained Winds GTE 45kts and/or Gusts GTE 52kts | 1 hour | OWS |
| Moderate Thunderstorms<br>Large Hail<br>Strong Winds | GTE 1/4 inch but LT 3/4 inch and/or<br>Sustained Winds GTE 35kts and or Gusts GTE 45kts | 1 hour | OWS |
| Damaging Winds (level 2) | Sustained Winds GTE 45kts and/or Gusts GTE 52kts | 1 hour | OWS |
| Strong Winds (level 1) | Sustained Winds GTE 35kts and/or Gusts GTE 45kts | 1 hour | OWS |
| Freezing Precipitation | Any Intensity | 1 hour | OWS |
| Heavy Rain | GTE 2 inch accumulation within 12 hours | 1 hour | OWS |
| Heavy Snow | GTE 2 inch accumulation within 6 hours | 1 hour | OWS |
| Blizzard | Duration GTE 3 hrs, sustained winds/gusts GTE 30 kts, considerable falling and/or blowing snow, with prevailing visibility LTE 1/4 SM (all criteria must be met) | 1 hour | OWS |
| Lightning | within the 740th MS | Observed | WF* |

A4.1.2.1. All Watches and Warnings are issued separately for each Missile Squadron.

A4.1.2.2. Observed Warnings and advisories with an asterisk (*) will be issued by the BWF personnel when the BWF is open. The 15 OWS will issue observed warnings and advisories when the BWF is closed.

## Attachment 5

## MISSION LIMITING THRESHOLDS

**A5.1. General.** The following details the mission limiting thresholds relevant to each particular mission type:

**Figure A5.1. B-52 Critical Weather Thresholds.**

| T/O | |
|---|---|
| Weather | No Go |
| Sustained Sfc Wind | ≥ 35 KT |
| Crosswind | ≥ 45 KT (dry) ≥ 15 KT (wet) |
| VIS | <5/16 SM / < 1600 RVR* |
| Freezing Precip | Any Intensity |
| TS | ≥ 5 NM |

| Landing | |
|---|---|
| Weather | No Go |
| Sustained Sfc Wind | ≥ 35 |
| Crosswind | ≥ 45 KT (dry) ≥ 25 KT (wet) |
| Cig | < 200 ft |
| Vis | < ½ SM / < 2400 RVR* |
| Wind Shear | +/- 20 KT w/i 500 ft of SFC |
| Freezing Precip | Any Intensity |
| TS | ≥ 5 NM |

| A/R | |
|---|---|
| Weather | No Go |
| Sustained Sfc Wind | ≥ 35 KT (land) ≥ 25 KT (water) |
| Sea State | ≥ 10 Feet |
| Turb | ≥ Mod-Occn'l SVR |
| Icing | ≥ Mod |
| TS if FL ≤ 23kft | w/i 10NM |
| TS if FL > 23kft | w/i 20NM |
| FL Vis | < 1 SM |

| MOA | |
|---|---|
| Weather | No Go |
| Sustained Sfc Wind | ≥ 35 KT (land) ≥ 25 KT (water) |
| Sea State | ≥ 10 Feet |
| Turb | ≥ Mod |
| Icing | ≥ Mod |
| TS if FL ≤ 23kft | w/i 10NM |
| TS if FL > 23kft | w/i 20NM |
| Mountain Wave (**LL Run only**) | Any |

| BW Ground Ops | |
|---|---|
| Weather | No Go |
| WND | ≥ 30 KT |
| TS | ≤ 5 NM |
| VIS | < 1/4 SM |
| ECT | ≤ -45F |

| ***All B-52 Ops*** | |
|---|---|
| Weather | No Go |
| Tornadic Activity/Volcanic Ash | Any |

**Figure A5.2. 91 MW Operations Limiting Weather Thresholds.**

| Transporter/Erector Driving & PT/PMT/M-VAN or S-VAN | |
|---|---|
| Weather | No Go |
| WND (S) | ≥ 35 KT |
| WND (G) | ≥ 52 KT |
| VIS | < 1/10 SM |
| Freezing Precip | Any |
| Heavy Snow | ≥ 6 Inches Accumulation/Drifting |
| Rain | ≥ 1/2 inch |
| Tornadic Activity | Any |

| Transporter/Erector Erecting | |
|---|---|
| Weather | No Go |
| E/W SFC WND | ≥ 35 KT |
| N/S SFC WND | ≥ 35 KT (gust ≥ 52 KT) |
| TS | w/i 5 NM |
| ECT | ≤ -45F |
| Tornadic Activity | Any |

**Figure A5.3. 54 HS Critical Weather Thresholds.**

| All Missions | |
|---|---|
| Weather | No Go |
| Turbulence | > MODERATE |
| Icing | Intentional flight through known icing conditions with OAT < -5C is prohibited. Aircraft is restricted from flight in icing conditions other than TRACE. Continuous flight through TRACE icing not recommended. |
| Thunderstorms | within 5 NM |
| ECT | ≤ -45C (HG/CC waiver) |
| Ambient Temperature | < -54C or > 52C |
| Freezing Precipitation | Any |
| Tornadic Activity /Volcanic Ash | Any |

| Operational | |
|---|---|
| Weather | No Go |
| CIG/VIS (DAY VFR) | < 500 ft or < 1 SM |
| CIG/VIS (NVG VFR) | <700 ft or <2 SM |
| CIG/VIS (NIGHT UNAIDED VFR) | <1000 ft or <2 SM |
| CIG/VIS (IFR) | < 1/4 SM |
| VIS (Life or Death Mission) | Visibility to taxi |
| SFC Wind | > 45 KTS (steady) |
| ECT | ≤-45C (HG/CC waiver) |

| Training | |
|---|---|
| Weather | No Go |
| CIG/VIS (Dual Pilot) | < 500 ft or < 1 SM |
| CIG/VIS (Single Pilot) | < 700 ft or < 1 SM |
| CIG/VIS (NVG) | < 700 ft or < 2 SM |
| CIG/VIS (Night Unaided) | < 1000 ft or < 2 SM |
| CIG/VIS (IFR) | < 200 ft or < 1/2 SM |
| SFC Wind | > 40 KTS (steady) |

## Attachment 6

## UNIT RESPONSE ACTIONS

**A6.1. General.** The following details response actions associated with the WWA detailed in Attachment 4. This data assumes notifications are disseminated IAW procedures outlined in Attachment 2. NOTE: Any/all actions required by other Minot AFB regulations (e.g. – IEMP 10-2) are covered in those respective regulations.

**Table A6.1. 5 OG Response Actions.**

| **Criteria (W – Watch, Wn – Warning, A – Advisory)** | **Response Action** |
|---|---|
| (A) Lightning w/in 10nm of MAFB | OG/CC approval required for T/O & land; Halts transition flying ops. |
| (A) Wind Chill ≤ -25°F | Don cold weather gear. Increase AFE job completion time; OG/CC approval required for flight line flying ops. |
| (A) Wind Chill ≤ -45°F | Recall flight line AFE personnel. Halts AFE operations; OG/CC approval required for flight line flying ops. |
| (A) Icing | Potential traffic pattern ops restrictions. |
| (A) Crosswinds ≥ 15KT | Potential traffic pattern ops restrictions. |
| (A) RVR ≤ 1600ft | OG/CC approval required for flying ops; landing ops cease. |
| (A) RVR ≤ 2400ft | Potential diverts. |
| (W) Lightning w/in 5nm of MAFB | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (W) Tornado | Recall flight line AFE personnel. Halts AFE operations. Potential flying ops deviations. |
| (W) Hail ≥ 3/4” | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (W) Blizzard | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (W) Winds ≥ 50KT | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (W) Freezing Precipitation | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (W) Heavy Rain | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (W) Heavy Snow | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations. |
| (Wn) Lightning w/in 5nm of MAFB | Recall flight line AFE personnel. Halts AFE operations. Likely flying ops deviations. |
| (Wn) Tornado | Recall flight line AFE personnel; take shelter. Halts AFE and Simulator operations. Likely flying ops deviations. |
| (Wn) Hail ≥ 3/4” | Recall flight line AFE personnel. Halts AFE operations. Likely flying ops deviations. |

| | |
|---|---|
| (Wn) Blizzard | Recall flight line AFE personnel; Don cold weather gear. Halts AFE operations. Likely flying ops deviations; Potential cancellations (peacetime). |
| (Wn) Winds ≥ 50KT | Recall flight line AFE personnel; Don PPE. Limits AFE operations.<br>Potential flying ops deviations. |
| (Wn) Winds 35-49KT | Recall flight line AFE personnel; Don PPE. Limits AFE operations.<br>Potential flying ops deviations. |
| (Wn) Heavy Snow | Recall flight line AFE personnel. Delays AFE operations. Potential flying ops deviations |
| (Wn) Freezing Precipitation | Potential flying ops deviations. |

**Table A6.2. 5 MXG Response Actions.**

| **Criteria (W – Watch, Wn – Warning, A – Advisory)** | **Response Action** |
|---|---|
| (A) Lightning within 10 NM of MAFB | Limit outdoor MXS ops. Reduced MXS ops |
| (A) Surface Winds ≥ 30 KTS | Cease Weapons Loading; Secure AGE/A/C panels. Potential flying ops deviations. Reduced MXS ops. |
| (A) Wind Chill ≤ +15 F | Initiate cold weather ops. Reduced MXG ops. |
| (A) Wind Chill ≤ -05 F | Sq/CC Approval Required for AMXS ops. Reduced MXG ops. |
| (A) Wind Chill ≤ -25 F | MXG/CC Approval Required for AMXS ops; Priority AMXS ops only; Mission essential MXS ops only. |
| (A) Wind Chill ≤ -45 F | AMXS ops by WG/CC direction only; Emergency MXS ops only. Limited AMXS ops; Severely limited MXS ops. |
| (A) Turbulence | N/A |
| (A) Icing | N/A |
| (A) Low Level Wind Shear | N/A |
| (A) Crosswind ≥ 15 KTS | N/A |
| (A) Runway Visual Range ≤ 1600 ft | N/A |
| (A) Runway Visual Range ≤ 2400 ft | N/A |
| (W) Lightning within 5 NM of MAFB | Cease fuel cell ops. Reduced MXS ops. |
| (W) Thunderstorms /lightning within the 91 MW missile complex | N/A |
| (W) Tornado | Recall non-essential flight line AMXS personnel. |
| (W) Hail ≥ 3/4 inch | Limited MXS ops. |
| (W) Blizzard | Recall non-essential flight line AMXS personnel. Limited equipment availability. |

| | |
|---|---|
| (W) High Winds (≥ 50 KTS) | Recall non-essential flight line AMXS personnel; Raise A/C flaps; No Weapons Loading; Close Nose Radomes; No A/C Jacking; No Fin Folding. Limited equipment availability; Limited MXS ops. |
| (W) Freezing Precipitation | N/A |
| (W) Heavy Rain ≥ 2 inches w/in 12 hours | Close A/C windows and hatches. Limited MXS ops. |
| (W) Heavy Snow ≥ 2 inches w/in 6 hours | Recall non-essential flight line AMXS personnel. Limited equipment availability; Limited MXS ops. |
| (Wn) Lightning within 5 NM of MAFB | Cease outdoor/fuel cell operations; Cease explosives ops. Limited MXG ops. |
| (Wn) Tornado | Take shelter; Cease explosives ops. No MXG ops. |
| (Wn) Hail ≥ 3/4 inch | Cease outdoor ops. Limited MUNS ops. |
| (Wn) Blizzard | Recall non-essential flight line AMXS personnel; Consider release of personnel from duty. Limited MXG ops. |
| (Wn) High Winds ≥ 50 KTS | Clear/secure high profile stands/non-essential MXG equipment; Raise A/C flaps; No Weapons Loading; Close Nose Radomes; No A/C Jacking; No Fin Folding; Limited AMXS/MUNS ops; Potential flying ops deviations. |
| (Wn) Wind > 35 KTS but < 50 KTS | Clear high profile stands/non-essential AMXS equipment; Raise A/C flaps; No Weapons Loading; Close Nose Radomes; No A/C Jacking; No Fin Folding. Limited AMXS/MUNS ops; Potential flying ops deviations. |
| (Wn) Freezing Precipitation | N/A |
| (Wn) Heavy Rain ≥ 2 inches w/in 12 hours | N/A |
| (Wn) Heavy Snow ≥ 2 inches w/in 6 hours | Recall non-essential flight line AMXS personnel; Consider release of personnel from duty. Limited AMXS ops. |

**Table A6.3. 5 MSG Response Actions.**

| **Criteria (W – Watch, Wn – Warning, A – Advisory)** | **Response Action** |
|---|---|
| (A) Lightning within 10 NM of MAFB | Potential CS ops delays. |
| (A) Surface Winds ≥ 30 KTS | Lower base flag. Potential CS ops delays. |
| (A) Wind Chill ≤ +15 F | Potential CS ops delays. |
| (A) Wind Chill ≤ -05 F | Initiate 2-person policy. Potential CS ops delays; Reduced LRS ops flexibility. |
| (A) Wind Chill ≤ -25 F | Initiate 2-person policy. Potential CS ops delays; Reduced LRS ops flexibility. |
| (A) Wind Chill ≤ -45 F | LRS response by emergency only. Potential CS ops delays; Halts LRS activity--WG/CC waiver required. |
| (A) Visibility ≤ 1/4 SM | Consider augmenting SF personnel for protection of high PL assets. |

| | |
|---|---|
| (W) Lightning w/in 5nm of MAFB | Place CS mx crews on standby; Halt ground refueling ops. CS ops delays; Potential flying ops deviations. |
| (W) Thunderstorms w/in the 91 MW MC | Place CS mx crews on standby. CS ops delays. |
| (W) Tornado | Place CS mx crews on standby; shelter all refueling equipment CS ops delays. |
| (W) Hail $\geq$ 3/4" | Place CS mx crews on standby; shelter all refueling equipment CS ops delays. |
| (W) Blizzard | Place CS mx crews on standby. CS ops delays; Refueling ops delays. |
| (W) Winds $\geq$ 50KT | Place CS mx crews on standby. CS ops delays. |
| (W) Freezing Precipitation | Place CS mx crews on standby; shelter all refueling equipment CS ops delays. |
| (W) Heavy Rain | Place CS mx crews on standby. CS ops delays. |
| (W) Heavy Snow | Place CS mx crews on standby. CS ops delays. |
| (Wn) Lightning w/in 5nm of MAFB | Place CS mx crews on standby; Halt all refueling ops. CS ops delays; Likely flying ops deviations. |
| (Wn) Tornado | Place CS mx crews on standby; take shelter. CS ops delays; Likely flying ops deviations. |
| (Wn) Hail $\geq$ 3/4" | Place CS mx crews on standby; shelter all refueling equipment. CS ops delays. |
| (Wn) Blizzard | Place CS mx crews on standby; release non-essential personnel. CS ops delays. |
| (Wn) Winds $\geq$ 50KT | Place CS mx crews on standby. CS ops delays. |
| (Wn) Winds 35-49KT | Place CS mx crews on standby. CS ops delays. |
| (Wn) Heavy Snow | Place CS mx crews on standby. CS ops delays. |
| (Wn) Heavy Rain | Place CS mx crews on standby. CS ops delays. |
| (Wn) Freezing Precipitation | Shelter all refueling equipment. Likely flying ops deviations. |

**Table A6.4. 5 MDG Response Actions.**

| **Criteria (W – Watch, Wn – Warning, A – Advisory)** | **Response Action** |
|---|---|
| (W) Tornado | N/A |
| (W) Blizzard | Consider closing clinic. Increased ambulance response time; reduced medical services. |
| (Wn) Tornado | Shelter all staff/patients. No non-emergency medical services. |
| (Wn) Blizzard | Consider closing clinic. Increased ambulance response time; reduced medical services. |
| (Wn) Freezing Precipitation | Increased ambulance response time. |
| (Wn) Heavy Rain $\geq$ 2 inches w/in 12 hours | Increased ambulance response time. |

| | |
|---|---|
| (Wn) Heavy Snow ≥ 2 inches w/in 12 hours | Increased ambulance response time. |

**Table A6.5. 582 HG Response Actions.**

| Criteria (W – Watch, Wn – Warning, A – Advisory) | Response Action |
|---|---|
| (A) Lightning within 10 NM of MAFB | N/A |
| (A) Surface Winds ≥ 30 KTS | N/A |
| (A) Wind Chill ≤ +15 F | N/A |
| (A) Wind Chill ≤ -05 F | N/A |
| (A) Wind Chill ≤ -25 F | Priority missions only. Potential flying ops deviations. |
| (A) Wind Chill ≤ -45 F | Priority missions only. Potential flying ops deviations. |
| (A) Turbulence | Consider canceling flights. Potential flying ops deviations. |
| (A) Icing | Consider canceling flights. Potential flying ops deviations. |
| (A) Low Level Wind Shear | N/A |
| (A) Crosswind ≥ 15 KTS | N/A |
| (A) Runway Visual Range ≤ 1200 ft | IFR only; critical missions only. Potential flying ops deviations. |
| (A) Runway Visual Range ≤ 2400 ft | IFR only; critical missions only. Potential flying ops deviations. |
| (W) Lightning within 5 NM of MAFB | No takeoffs; Likely flying ops deviations. |
| (W) Thunderstorms /lightning within the 91 MW missile complex | Restrict flying ops in affected areas. Potential flying ops deviations. |
| (W) Tornado | Consider ceasing flying ops. Potential flying ops deviations. |
| (W) Hail ≥ 3/4 inch | Shelter a/c. Potential flying ops deviations. |
| (W) Blizzard | Critical missions only; restrict ground personnel movement. Potential flying ops deviations. |
| (W) Sustained Winds ≥ 45 KTS or Gusts ≥ 52 KTS | Consider ceasing flying ops. Potential flying ops deviations. |
| (W) Freezing Precipitation | Consider flying ops restrictions. Potential flying ops deviations. |
| (W) Heavy Rain ≥ 2 inches w/in 12 hours | N/A |
| (W) Heavy Snow ≥ 2 inches w/in 6 hours | N/A |
| (Wn) Lightning within 5 NM of MAFB | Cease flying ops. Likely flying ops deviations. |
| (Wn) Tornado | Cease flying ops. Take shelter. Likely flying ops deviations. |
| (Wn) Hail ≥ 3/4 inch | Shelter a/c; cease flying ops. Likely flying ops deviations. |

| | |
|---|---|
| (Wn) Blizzard | Critical missions only; restrict ground personnel movement. Likely flying ops deviations. |
| (Wn) Sustained Winds ≥ 45 KTS or Gusts ≥ 52 KTS | Cease flying ops. Likely flying ops deviations. |
| Sustained Winds ≥ 35 KTS and/or Gusts ≤ 45 KTS | Cease training flights (≥steady 40kts); cease flying ops (≥45kt). Likely flying ops deviations. |
| (Wn) Freezing Precipitation | Restrict flying ops. Likely flying ops deviations. |
| (Wn) Heavy Rain ≥ 2 inches w/in 12 hours | N/A |
| (Wn) Heavy Snow ≥ 2 inches w/in 6 hours | N/A |

**Table A6.6. 91 MXG Response Actions.**

| **Criteria (W – Watch, Wn – Warning, A – Advisory)** | **Response Action** |
|---|---|
| (A) Lightning within 10 NM of MAFB | Potential MXG ops deviations. |
| (A) Surface Winds ≥ 30 KTS | Potential MXG ops deviations. |
| (A) Wind Chill ≤ +15 F | N/A |
| (A) Wind Chill ≤ -05 F | N/A |
| (A) Wind Chill ≤ -25 F | N/A |
| (A) Wind Chill ≤ -45 F | N/A |
| (A) Turbulence | N/A |
| (A) Icing | N/A |
| (A) Low Level Wind Shear | N/A |
| (A) Crosswind ≥ 15 KTS | N/A |
| (A) Runway Visual Range ≤ 1200 ft | N/A |
| (A) Runway Visual Range ≤ 2400 ft | N/A |
| (W) Lightning within 5 NM of MAFB | Restrict MXG ops. Potential MXG ops deviations. |
| (W) Thunderstorms /lightning within the 91 MW missile complex | Restrict MXG ops in affected areas. Potential MXG ops deviations. |
| (W) Tornado | Take shelter. Likely MXG ops deviations. |
| (W) Hail ≥ 3/4 inch | N/A |
| (W) Blizzard | N/A |
| (W) Sustained Winds ≥ 45 KTS or Gusts ≥ 52 KTS | Consider ceasing MXG ops utilizing high profile vehicles. Limited MXG ops. |
| (W) Freezing Precipitation | N/A |

| | |
|---|---|
| (W) Heavy Rain ≥ 2 inches w/in 12 hours | N/A |
| (W) Heavy Snow ≥ 2 inches w/in 6 hours | N/A |
| (Wn) Lightning within 5 NM of MAFB | N/A |
| (Wn) Tornado | N/A |
| (Wn) Hail ≥ 3/4 inch | N/A |
| (Wn) Blizzard | N/A |
| (Wn) Sustained Winds ≥ 45 KTS or Gusts ≥ 52 KTS | Cease MXG ops utilizing high profile vehicles. Limited MXG ops. |
| Sustained Winds ≥ 35 KTS and/or Gusts ≤ 45 KTS | Cease MXG ops utilizing high profile vehicles. Limited MXG ops. |
| (Wn) Freezing Precipitation | N/A |
| (Wn) Heavy Rain ≥ 2 inches w/in 12 hours | N/A |
| (Wn) Heavy Snow ≥ 2 inches w/in 6 hours | N/A |

**Table A6.7. 91 SFG Response Actions.**

| **Criteria (W – Watch, Wn – Warning, A – Advisory)** | **Response Action**<br>***NOTE: Response to PL-1 resources overrides any listed response action below.** |
|---|---|
| (A) Lightning within 10 NM of MAFB | Mission essential outdoor activities only. Limited SF activities. |
| (A) Surface Winds ≥ 30 KTS | N/A |
| (A) Wind Chill ≤ +15 F | Refer to MINOTAFBI 91-303,Table A5.1 |
| (A) Wind Chill ≤ -05 F | Refer to MINOTAFBI 91-303,Table A5.1 |
| (A) Wind Chill ≤ -25 F | Refer to MINOTAFBI 91-303,Table A5.1 |
| (A) Wind Chill ≤ -45 F | Refer to MINOTAFBI 91-303,Table A5.1 |
| (A) Turbulence | N/A |
| (A) Icing | N/A |
| (A) Low Level Wind Shear | N/A |
| (A) Crosswind ≥ 15 KTS | N/A |
| (A) Runway Visual Range ≤ 1200 ft | N/A |
| (A) Runway Visual Range ≤ 2400 ft | N/A |
| (A) Visibility ≤ 1/4 SM | Consider augmenting SF personnel for protection of high PL assets. |
| (W) Lightning within 5 NM of MAFB | Mission essential outdoor activities only. Limited SF activities. |

| | |
|---|---|
| (W) Thunderstorms /lightning within the 91 MW missile complex | Mission essential outdoor activities only. Limited SF activities. |
| (W) Tornado | Take shelter. No outdoor SF activities. |
| (W) Hail ≥ 3/4 inch | Shelter vehicles as able. No outdoor SF activities; delayed response. |
| (W) Blizzard | Shelter vehicles as able. No outdoor SF activities; delayed response. |
| (W) Sustained Winds ≥ 45 KTS or Gusts ≥ 52 KTS | Park vehicles pointing into wind direction. Tactical implications override this requirement. |
| (W) Freezing Precipitation | Reduce travel speeds. Delayed response. |
| (W) Heavy Rain ≥ 2 inches w/in 12 hours | Reduce travel speeds. Delayed response. |
| (W) Heavy Snow ≥ 2 inches w/in 6 hours | Reduce travel speeds. Delayed/restricted response. |
| (Wn) Lightning within 5 NM of MAFB | Mission essential outdoor activities only. Limited SF activities. |
| (Wn) Tornado | Take shelter. No outdoor SF activities. |
| (Wn) Hail ≥ 3/4 inch | Shelter vehicles as able. No outdoor SF activities; delayed response. |
| (Wn) Blizzard | Shelter vehicles as able. No outdoor SF activities; delayed response. |
| (Wn) Sustained Winds ≥ 45 KTS or Gusts ≥ 52 KTS | Park vehicles pointing into wind direction. Tactical implications override this requirement. |
| Sustained Winds ≥ 35 KTS and/or Gusts ≤ 45 KTS | Park vehicles pointing into wind direction. Tactical implications override this requirement. |
| (Wn) Freezing Precipitation | Reduce travel speeds. Delayed response. |
| (Wn) Heavy Rain ≥ 2 inches w/in 12 hours | Reduce travel speeds. Delayed response. |
| (Wn) Heavy Snow ≥ 2 inches w/in 6 hours | Reduce travel speeds. Delayed/restricted response. |