

**BY ORDER OF THE COMMANDER  
DOVER AIR FORCE BASE (AMC)**

**DOVER AIR FORCE BASE  
INSTRUCTION**



**15-101**

**14 NOVEMBER 2016**

**Weather**

**WEATHER SUPPORT**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Policy Directive 15-1, Air Force Weather Operations, AFI 15-114, Functional Resource and Weather Technical Performance Evaluation, AFI 15-128, Air Force Weather Roles and Responsibilities, AFI 10-206, Operational Reporting, AFI 10- 2501, Air Force Emergency Management (EM) Program Planning and Operations, AFI 11 - 208 IP, Department of Defense Notice to Airmen (NOTAM) System , AFMAN 15 - 2504 , Air Force Incident Management Guidance for Major Accidents and Natural Disasters , AFMAN 15-111, Surface Weather Observations, AFMAN 15-124, Meteorological Codes, AFMAN 15-129V1, Air and Space Weather Operations - Characterization, AFMAN 15-129V2, Air and Space Weather Operations - Exploitation, and Air Mobility Command Instruction (AMCI) 15-101, Weather Operations And Support. It establishes responsibilities, weather support procedures and provides general information for weather services, including weather observations and forecasts, weather warnings, watches, and advisories; space weather data, information dissemination, and base-wide reciprocal support. It applies to units assigned to the 436th Air Mobility Wing (436 AMW) and units assigned, attached, or supported by Dover AFB. This instruction also applies to the 512th Airlift Wing (AW) (AFRES). Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, Management of Records, and disposed of in accordance with the Air Force Records Information System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afirms/afirms/>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of

Publication; route AF Forms 847 from the field through the appropriate functional's chain of command.

### ***SUMMARY OF CHANGES***

This document has been substantially revised and must be completely reviewed. Major changes include: Re-organization of material into chapter form, duty hours have been changed to reflect 24/7 operations as well as limited duty, changed Cooperative Weather Watch (para 2.6) responsibilities of WF to include tower visibility remark regardless of operating mode, tower visibility is now a mandatory supplement remark (para 2.1), added new SPECI criteria (Attach 3) for tower visibility, added new criteria to be recalled from limited duty for visibility <4SM (Attach 10), moved C-5M/C- 17 weather thresholds to Attach 7, Tropical support moved to Attach 9.

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## Chapter 1

### CHARACTERIZATION UNIT (CU) & EXPLOITATION UNIT (EU) INTERACTIONS

**1.1. General.** The 15th Operational Weather Squadron (15 OWS), the 618th Air Operations Center (Tanker Airlift Control Center) Weather Directorate (618 AOC (TACC)/XOW), and the 436th Operations Support Squadron Weather Flight (436 OSS/OSW) are the official weather information agencies for Dover Air Force Base, Delaware. These agencies provide weather information in support of the 436th Airlift Wing, 512th Airlift Wing, subordinate units, and units assigned, attached, or supported by Dover Air Force Base (DAFB). The 618 AOC (TACC)/XOW is commonly referred to as TACC/XOW throughout this document. The 436 OSS/OSW is commonly referred to as the Weather Flight (WF) and is the focal point for all weather-related issues. This instruction is reviewed and revised no greater than biennially or IAW with host/parent unit procedures if the time is less than biennially.

1.1.1. The 15 OWS is considered the characterization unit. Characterization encompasses the “collect, analyze and predict” weather core competencies. Characterization depends on Air Force Weather’s ability to collect accurate data, correctly analyze that data, and use the results to produce a coherent picture of the present and future state of the air and space environment.

1.1.2. 436 OSS/OSW and TACC/XOW are considered exploitation units. Exploitation is the ability to minimize the impact of environmental threats to friendly forces while simultaneously capitalizing on environmental conditions that maximize the operational advantage over enemy forces. Exploitation units tailor the characterization provided by the characterization unit. Tailoring is the extraction of data that is pertinent to a specific mission profile from the overall characterization of the air and space environment. Tailoring does not mean changing the characterization. To the greatest extent possible, exploitation units utilize the characterized data provided to them.

**1.2. Concept of Operations.** The 15 OWS at Scott AFB, Illinois, provides regional and operational-level weather products and information to Air Force and Army units in the northeast region of the Continental United States (CONUS).

1.2.1. **Meteorological Watch (METWATCH).** The 15 OWS performs a continuous METWATCH for Dover AFB. METWATCH is 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, determine courses of action to update or amend a forecast product or group of products, and notify designated agencies.

1.2.2. The Weather Flight (WF) and TACC/XOW are the primary source of tailored weather services in support of the 436 AW, 512 AW and visiting aircrews. The WF and TACC/XOW make every effort to ensure that mission-limiting weather is anticipated and exploited, and that safety and Resource Protection (RP) are maintained.

**1.3. Responsibilities.** General responsibilities of the 15 OWS and WF are outlined in AFI 15-128, para 4.1. and para 6.2. respectively.

1.3.1. The 15 OWS issues the Dover AFB Terminal Aerodrome Forecasts (TAFs), forecast weather warnings and watches and advisories (WWA), and may provide flight weather briefings to transient aircrews passing through Dover AFB. Additionally, the OWS issues observed warnings and advisories when the WF is closed.

1.3.2. The WF issues all observed advisories and warnings when the WF is open.

1.3.3. The WF creates Mission Weather Products (MWP) that fuse theater scale products with local mission requirements to enable the direct inject of weather impacts into warfighter planning and/or execution. Upon request, the WF provides flight weather briefings and operational weather support for the 436th/512th AW. The WF also provides planning weather briefings for the 436 OSS C-5 FTU and flight weather briefings for transient aircrews IAW the WF duty priorities listed in **Table 1**

1.3.4. **TACC/XOW.** TACC/XOW provides flight weather briefings and operational weather support for the 436 AW and the 512 AW.

1.3.5. **Dover AFB Installation Data Page.** The 15 OWS and Dover WF coordinate on and maintain the Dover AFB Installation Data Page. Data page details include; TAF specification and amendment criteria, WWA thresholds, desired lead times, mission impacts, unit information, Joint Environmental Toolkit (JET) back-up contacts and local outage back-up information.

1.3.6. **Eyes Forward & Collaboration.** The Dover WF acts as the eyes forward for the 15 OWS by relaying significant, time-sensitive meteorological information not found in coded meteorological reports to the assist in forecast operations.

1.3.7. **Duty Priorities.** All WF tasks cannot be accomplished simultaneously. Therefore, IAW AFMAN 15-129V2 the WF has established the duty priorities listed in Table 1.1. based on their order of relative importance to mission accomplishment. Since not all situations affecting operations at Dover AFB can be anticipated, WF personnel use sound risk management principles to determine the need to recall additional personnel to assist in meeting surges in operations.

**Table 1.1. 436 OSS/OSW Duty Priority Listing**

<b>Order of Priority</b>	<b>Duties</b>
1	Perform Emergency War Order (EWO) tasking
2	Execute WF evacuation
3	Respond to aircraft/ground emergencies (Crash Net)
4	Respond to pilot to metro service (PMSV)
5	Issue observed lightning warnings
6	Issue observed weather advisories
7	Disseminate urgent pilot reports (UUA) locally and to the 15 OWS
8	Take and disseminate manual and augmented surface observations locally and to the 15 OWS
9	Perform coordinated METWATCH support & provide "Eyes Forward" support to 15 OWS
10	Perform severe weather action procedures (SWAP)
11	Prepare and disseminate Mission Execution Forecasts (MEFs)
12	Disseminate routine PIREPs locally and to the 15 OWS (as required)

13	Transmit surface observations and all PIREPs long line
14	Perform MISSIONWATCH
15	Provide scheduled weather briefings
16	Provide non-scheduled weather briefings
17	Provide other weather products, information, and weather briefings
18	Accomplish all other routine tasks

#### 1.4. Hours of Operation.

1.4.1. **Weather Flight (WF).** The WF will be open 24 Hour Operations or Limited Duty Operations based on manning constraints as approved by the 436 OG/CC or higher. The current hours of operation will be listed in the Flight Information Publication (FLIP). A Notice to Airmen (NOTAM) will be issued for short term changes in service hours that do not exceed 90 days.

1.4.1.1. **24 Hour Operations.** WF personnel will be available 24 hours a day/7 days a week, 365 days a year. All Airfield and Mission services will be available. Staff services are available Monday- Friday 0730L-1630L or as required.

1.4.1.2. **Limited Duty Operations.** Airfield and mission services hours of operations are Monday- Friday from 0600L-1800L. In addition, WF personnel are on duty when the airfield is open and no automated observing system capability exists or when the SWAP is activated as outlined in para 2.8.2. The WF stands up operations as directed by the 436 AW/CC or 436 OG/CC. Staff services are available Monday-Friday 0730L-1630L or as required. A web-based aircrew-briefing terminal is located in base operations, flight planning room. This briefing terminal allows aircrews to self-brief or schedule a flight weather briefing from the 15 OWS.

1.4.1.2.1. Prior to closing the station, the WF technician is responsible for contacting the 15 OWS, Air Traffic Control (ATC), base operations, and command posts (CPs). The weather technician does not leave the work center until all agencies have been notified.

1.4.1.2.2. IAW the Dover AFB Installation Data Page, the WF sends a letter to the 15 OWS team lead, 436 AW/CP, and ATC identifying the WF standby member NLT 1600 of the last duty day of the week. The letter identifies criteria the WF member should be recalled for. See Attachment 10 for template.

1.4.2. **15 OWS and TACC/XOW.** Hours of operation are 24/7, 365 days a year.

#### 1.5. Contact Information.

1.5.1. **WF** (302) 677-4175/4176 / DSN 445-4175/4176

1.5.2. **WF AOL** (302) 677-4175/ DSN 445-4175

1.5.3. **PMSV** 342.0 MHz

1.5.4. **TACC/XOW** (618) 229-0353 / DSN 779-0353

1.5.5. **15 OWS** (618) 256-9699 / DSN 576-9699

1.6. **Continuity of Operations Plan (COOP).** Continuity of support to the installation and flying operations is susceptible to equipment and communication outages at the 15 OWS, TACC,

and WF. The WF participates in various Wing, 15 OWS, and AMC COOP exercises to maintain procedures for and proficiency at tasks necessary to ensure continuity of operations.

1.6.1. **WF COOP.** In the event of a building evacuation, the WF relocates to building 1306 (near the Aero Club), Comm (618) 256-2589 / DSN 576-2589. WF members utilize evacuation checklists and standard operating procedures (SOPs) to expedite resumption of installation weather support. If access to observing sensing equipment readouts is lost, manual equipment is used to take observations. Expect some services to be degraded (weather products, pilot briefings, etc.) due to limited facilities and loss of dedicated data services, including sensors and various data types (meteorological satellite (METSAT), radar imagery, etc.). For flight safety reasons, the WF does not evacuate during exercises.

1.6.2. **15 OWS COOP.**

1.6.2.1. For short-term disruptions in 15 OWS support (up to 72 hours), the WF assumes local TAF and weather watch, warning and advisory responsibility.

1.6.2.2. For long-term disruptions in 15 OWS support (greater than 72 hours), the 15 OWS' plan is to resume all support from an alternate location.

1.6.3. **TACC/XOW COOP.** IAW AMCI 15-101, if the TACC/XOW loses the capability to provide flight weather briefing services, the WF assumes responsibility for all Dover AFB Integrated Flight Management (IFM) and non-IFM weather packages. If the WF is unable to provide the required support, briefing responsibility is transferred to the 15 OWS.

1.6.4. **AMC Weather COOP Exercises.** AMC weather units conduct coordinated COOP exercises on the second Wednesday/Thursday of each month. AMC/A2AW issues Special Instructions (SPINS) outlining the functions and capabilities that are to be exercised. As a courtesy, the WF coordinates COOP timelines and potential impacts with supported units prior to all scheduled COOPs.

1.6.4.1. **GDSS Proficiency/Outage Exercise.** GDSS proficiency exercises ensure the WF is prepared to support continuity of operations during TACC evacuations, operational surges beyond TACC/XOW's capability to support, or GDSS outages. During TACC/XOW GDSS proficiency/outage exercises, the WF:

1.6.4.1.1. Provides mission weather packages through GDSS or alternate means if a GDSS outage is simulated.

1.6.4.1.2. Ensures all briefing packages are completed and available to the aircrews NLT 2.5 hours prior to scheduled departure. Exception – C-5M FTU briefing packages will be available to aircrews **NLT 3.5 hours** prior to scheduled departure.

1.6.4.2. **Manual/Tactical Observing Exercise.** Manual/Tactical observing exercises ensure the WF is proficient in the use of tactical weather systems and manual observing methods needed to continue the dissemination of accurate weather operations during partial or total failure of the installation's automated observing system. Additionally, these exercises provide the opportunity to conduct required operations checks of deployable weather equipment and ensure WF personnel are proficient in its operation. During manual/tactical observing exercises the WF:

1.6.4.2.1. Follows AMC/A2AW published SPINS. These SPINS contain the specifics for the each exercise.

1.6.4.2.2. Ensures all personnel are certified on manual and tactical observing techniques.

1.6.4.3. **Alternate Operating Location (AOL) Exercise.** AOL exercises fulfill the AFMAN 15-129V2 requirements for WF leadership to ensure all personnel are task certified to operate at the AOL and meet annual exercise requirements. Prior to the exercise, WF leadership must ensure that the AOL has a view of the airfield complex and that adequate communications are available.

## Chapter 2

### AIRFIELD SUPPORT

**2.1. General.** Airfield support includes those actions affecting the Dover aerodrome (defined within a 5NM radius of the airfield) or Dover AFB as a whole. These functions include, but may not be limited to, weather observing, meteorological watch, and resource protection.

**2.2. Automated Observation.** Dover AFB utilizes the FMQ-19 Automatic Meteorological Observing Station (AMOS) in concert with the Joint Environmental Toolkit (JET) to evaluate, prepare, and transmit weather observations. IAW AFMAN 15-111, *Surface Weather Observations*, automated systems at Department of Defense controlled airfields are to operate in full-automated mode except under the conditions specified in paragraphs 3.2.1. The three basic types of observations provided are METAR, SPECI, and LOCAL.

**2.2.1. Aviation Routine Weather Report (METAR).** METAR is a routine scheduled observation disseminated locally and long-line between 55 and 59 minutes after the hour. METAR contains a complete report of wind, visibility, runway visual range, present weather and obstructions, sky condition, temperature, dew point, and altimeter setting. In addition, a METAR may contain encoded and/or plain language information that elaborates on data in the report.

**2.2.2. Aviation Selected Special Weather Report (SPECI).** SPECI is an unscheduled observation completed and transmitted when any of the Dover AFB special criteria listed in Attachment 3 are observed or sensed. SPECI contains all data elements found in a METAR plus additional remarks that elaborate on data in the body of the report. A SPECI is prepared and transmitted as soon as possible after the relevant criteria are observed.

2.2.2.1. A SPECI is prepared and transmitted as soon as possible after the relevant criteria are observed.

2.2.2.2. Operators requiring an observation for a threshold not listed in attachment 3 should contact the WF at any of the numbers listed in paragraph 1.5.1.

2.2.2.3. Refer to Attachment 5 of this document to see an example of a SPECI weather observation.

**2.2.3. Aviation Selected Local Weather Report (LOCAL).** LOCAL is an unscheduled observation, not meeting SPECI criteria. When performing FMQ-19 backup the WF takes a single element LOCAL for altimeter setting, at an interval not to exceed 35 minutes, when there has been a change of one or more altimeter settings since the last reported altimeter value.

**2.2.4. Point Of Observation.** The point of observation is the official point where a weather observation is taken. On Dover AFB, the point of observation is where the FMQ-19 sensors are located. During periods of augmentation from the primary site, the point of observation is approximately 125 feet away from the east (flight line) side of building 501 (Base Operations). When augmentation is required from the AOL, the point of observation is marked by a compass rose approximately 35 feet from the flight line exit door.

**2.2.5. Observing Location Limitations.**

2.2.5.1. The FMQ-19 is properly sited and no limitations are currently noted.

2.2.5.2. When augmenting observations at either the primary site (Bldg 501) or the AOL, buildings and hangers block the observers view to the west. Additionally, observers may not hear thunder due to the level of noise on the flight line.

2.2.6. **Automated FMQ-19 Observation.** An automated observation is any observation evaluated, prepared, and transmitted by an observing system without human intervention. When operating in automated mode, the FMQ-19 determines sky condition based on an evaluation of sensor data gathered during the 30-minute period ending at the actual time of the observation. All other evaluated elements are based on sensor data that is within 10 minutes or less of the actual time of the observation.

2.2.7. **FMQ-19 Augmentation.** Augmentation is a method of having a position-qualified weather technician manually add or edit data to an observation generated by the FMQ-19. WF personnel do not augment the FMQ-19 when the airfield is closed except when tornadic activity is occurring or forecast to occur. The two augmentation processes used are supplementing and backup.

2.2.7.1. **Supplementing.** Supplementing is the process of manually adding meteorological information to an observation generated by the FMQ-19 that is beyond the system's capability to detect and/or report. For example, the sensor cannot sense tornadoes or hail.

2.2.7.2. **Supplementing procedures.** WF personnel supplement observations when the airfield is open and the weather conditions in Table 2.1. are observed or are forecast to occur within 1 hour. Additionally, WF personnel are required to be logged into JET with the Augment Observation tool open to be prepared to supplement whenever a watch is valid or warning has been issued for tornadic activity.

**Table 2.1. Mandatory Supplementary Weather Conditions**

<b>Mandatory Supplementary Weather Conditions – Body of Report</b>
Tornado (+ <b>FC</b> ) (Note 1)
Funnel Cloud ( <b>FC</b> ) (Note 1)
Waterspout (+ <b>FC</b> ) (Note 1)
Hail ( <b>GR</b> ) (Local warning criteria only)
Volcanic Ash ( <b>VA</b> )
Ice Pellets ( <b>PL</b> )
Visibility <1/4 mile (400 meters) (AN/FMQ-19 only)
<b>Mandatory Supplementary Weather Conditions – Remarks Section of Report</b>
Funnel Cloud (Tornadic Activity_B/E(hh)mm_LOC/DIR_(MOV)) (Note 2)
Snow Depth (Note 4)(only during controlled airfield hours).
Tower Visibility (See paragraph 2.16.2.3 in the AFMAN 15-111)

**Notes:**

1. References for coding of augmentable weather conditions are located in Chapter 13 of the AFMAN 15-111.
2. The immediate reporting of funnel clouds takes precedence over any other phenomenon.
3. Logon to AMOS or ADS and be prepared to supplement for tornadic activity whenever a warning is issued or a watch is valid for the phenomena.
4. Remarks and Additive Data references are provided in AFMAN 15-111, Attachment 3.

2.2.7.3. **Backup.** Backup is a method of manually providing meteorological data and/or dissemination of an FMQ-19 generated observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure.

2.2.7.4. **Backup Procedures.** In the event of FMQ-19 malfunction or failure, back-up procedures are implemented during airfield operating hours and/or if tornadic activity is occurring or forecast to occur. WF personnel use manual observing procedures when performing back-up operations. When required, the WF encodes and disseminates METAR and SPECI observations IAW AFMAN 15-111. All element entries are observed within 15 minutes of the actual time of the observation with the exception of wind gusts and squalls, which are reported only if they are observed within 10 minutes of the time of the observation. When utilizing a properly sited TMQ-53 as back-up equipment the wind values are estimated. When utilizing any other form of backup equipment, or when the TMQ-53 has not been sited IAW FCM-S4-1994 the pressure and wind values are estimated.

**2.3. TAFs.** Dover AFB TAFs are produced and disseminated by the 15 OWS IAW AFI 15-128, AFMAN 15-124, AFMAN 15-129V1, and the Dover AFB Installation Data Page. TAFs are valid for 30 hours, apply to the area within 5NM of the Dover AFB airfield complex, and are issued at 0000, 0800, and 1600 Zulu time. Attachment 4 lists forecast specification and amendment criteria. Attachment 5 contains an example of a typical Dover AFB TAF.

**2.4. Resource Protection (RP) Products.** Significant weather timelines and weather Watches, Warnings, and Advisories (WWA) are special notices used to alert decision makers that hazardous weather is occurring or that there is a potential for hazardous weather to occur within the area of operations. Customer responses to WWAs are listed in Attachment 6.

2.4.1. **Special Weather Statement (SWS).** A notice issued by the 15 OWS to assist with RP decisions. SWS advise of the potential for widespread hazardous weather conditions in a specified geographical region. The WF utilizes the SWS to assist in maintaining situational awareness of environmental conditions that have the potential to negatively impact Dover AFB or the local flying area.

2.4.2. **Weather Watch.** A special notice to notify installation personnel and supported units of a potential for environmental conditions of such intensity as to pose a hazard to life or property. Watches are issued for the criteria defined in [Table 2.2](#) and are valid for a 5NM radius from the center of the Dover runway complex.

2.4.2.1. Watches are standalone products based upon **potential** and are unaffected by warnings or advisories for the same phenomena.

2.4.2.2. Multiple watches may be in effect at the same time.

**Table 2.2. Weather Watches**

Watch Type	Criteria	Desired Lead Time
Tornado	within 5NM	As potential warrants
Severe Thunderstorms Damaging Hail Damaging Winds	> 3/4 inch > 50 knots	As potential warrants
Damaging Winds	≥ 50 knots	As potential warrants
Freezing Precipitation	any intensity	As potential warrants
Heavy Snow	≥ 2 inch accumulation within 12 hours	As potential warrants
Lightning	within 5NM	30 Minutes

**2.4.3. Weather Warning.** A special notice to inform installation personnel when an established weather condition of such intensity as to pose a hazard to life or property is occurring or is expected to occur. Warnings are issued for the criteria defined in [Table 2.3](#) and are valid for a 5NM radius from the center of the Dover runway complex.

2.4.3.1. Only one warning can be in effect at a time. When multiple warning criteria are forecast to occur, a single warning containing all applicable criteria is issued. A separate valid time may be specified for each criterion as necessary. Exception: Tornado and lightning warnings are issued separately from other warnings.

2.4.3.2. Warnings provide concise information outlining environmental threats. If a warning is issued for one weather criterion and it becomes necessary to warn for another weather criterion, a new warning, with a new number, is issued.

2.4.3.3. Forecasted warnings take precedence over advisories for the same phenomenon and should maintain horizontal consistency with TAFs and other forecasts products.

**Table 2.3. Weather Warnings**

Warning Type	Criteria	Desired Lead Time
Tornado	expected within 5NM	15 minutes
Severe Thunderstorms Damaging Hail Damaging Winds	≥ 3/4 inch ≥ 50 knots	1 hour
Moderate Thunderstorms Large Hail High Winds	≥ 1/4 inch but < 3/4 inch ≥ 35 knots but < 50 knots	1 hour
Damaging Winds	≥ 50 knots	1 hour
Strong Winds	≥ 35 knots but < 50 knots	1 hour
Freezing Precipitation	any Intensity	1 hour
Heavy Snow	≥ 2 inch accumulation in ≤ 6 hours	1 hour

Lightning	within 5NM	Observed
Wind Chill	LTE -20°F	Observed
Wind Chill	LTE -30°F	Observed

2.4.4. **Observed Weather Warnings.** Lightning warnings are one of the observed warnings issued for Dover AFB. Lightning warnings are issued when lightning is observed within 5NM, either visually or via the National Lightning Detection Network. Lightning warnings will be cancelled when lightning has not been observed within the past 15 minutes and radar indicates thunderstorms are no longer occurring within 5NM.

2.4.5. **Weather Advisories.** A notice to inform end users when an established environmental condition effecting operations is occurring or is expected to occur at Dover AFB. Observed weather advisory criteria are defined in [Table 2.4](#)

**Table 2.4. Weather Advisories**

Criteria	Criteria	Desired Lead
Winds	$\geq 20$ knots	Observed
Snow	>1/2 inch but <2 inches	30 minutes
Low Level Wind Shear	Observed below 2000ft AGL	Observed
Wind Chill	< +15°F	Observed
Lightning	Within 10NM	Observed

2.4.6. **WWA Numbering Scheme.** Advisories, watches, and warnings are numbered consecutively by identifying the type of weather message (watch, warning, or advisory) followed by a five-digit number. The first two numbers indicate the current month while the second three numbers indicate the sequence number. For example, the message “Weather Warning 02-005” means the month is February (02) and this is the fifth (005) warning issued in the month. The message “Weather Advisory 12-013” means the month is December (12) and this is the thirteenth (013) advisory issued in the month. An example of an observed weather advisory is contained in **Attachment 5**.

2.4.7. **WWA Upgrades/Downgrades.** An upgrade is a change to an active WWA resulting from adding additional WWA phenomenon or an increase in phenomenon intensity that crosses to a higher threshold (e.g., winds increase from 35 knots to 50 knots). A downgrade is a change to an active WWA resulting from removing WWA phenomenon or a decrease in phenomenon intensity that crosses to a lower threshold (e.g., hail decreases from  $\frac{3}{4}$  inch to  $\frac{1}{4}$  inch).

2.4.8. **WWA Amendments.** Amendments are issued when an active WWA no longer adequately describes a phenomenon’s expected occurrence. All amendments are issued with a new WWA number and should clearly state what affect the new WWA has on any previously issued notices.

2.4.9. **WWA Extensions.** Extensions are issued when a phenomenon’s occurrence is expected to last longer than originally forecast. Extensions are issued prior to the expiration

of the original WWA utilizing the same WWA number. Extensions should clearly state what effect they have on any previously issued notices.

2.4.10. **WWA Cancellation.** WWA are canceled when the weather phenomena is no longer occurring or expected to occur. WWA not extended or canceled automatically expire at the end of the valid period. Observed advisories are canceled when the criteria has not occurred in the last 30 minutes. See [para 2.4.4.](#) for cancellation of observed lightning warnings.

## 2.5. Weather Product Dissemination Process.

2.5.1. **Observations.** Observations taken by either the FMQ-19 or the weather technician are disseminated via JET. When JET is nonoperational, the WF relays observations to the following organizations in order of priority listed in [Table 2.5](#)

**Table 2.5. Notification Priority**

1. Tower – Hotline or 677-3020
2. RAPCON – Hotline or 677-3268
3. Command Post – Hotline or 677-4201
4. Airfield Management – Hotline or 677-4192
6. 15 OWS 94-576-9720

2.5.2. **TAFs.** 15 OWS disseminates TAFs via JET. If JET is nonoperational, the WF disseminates the TAF to ATC, RAPCON and Command Post via telephone, fax, or e-mail.

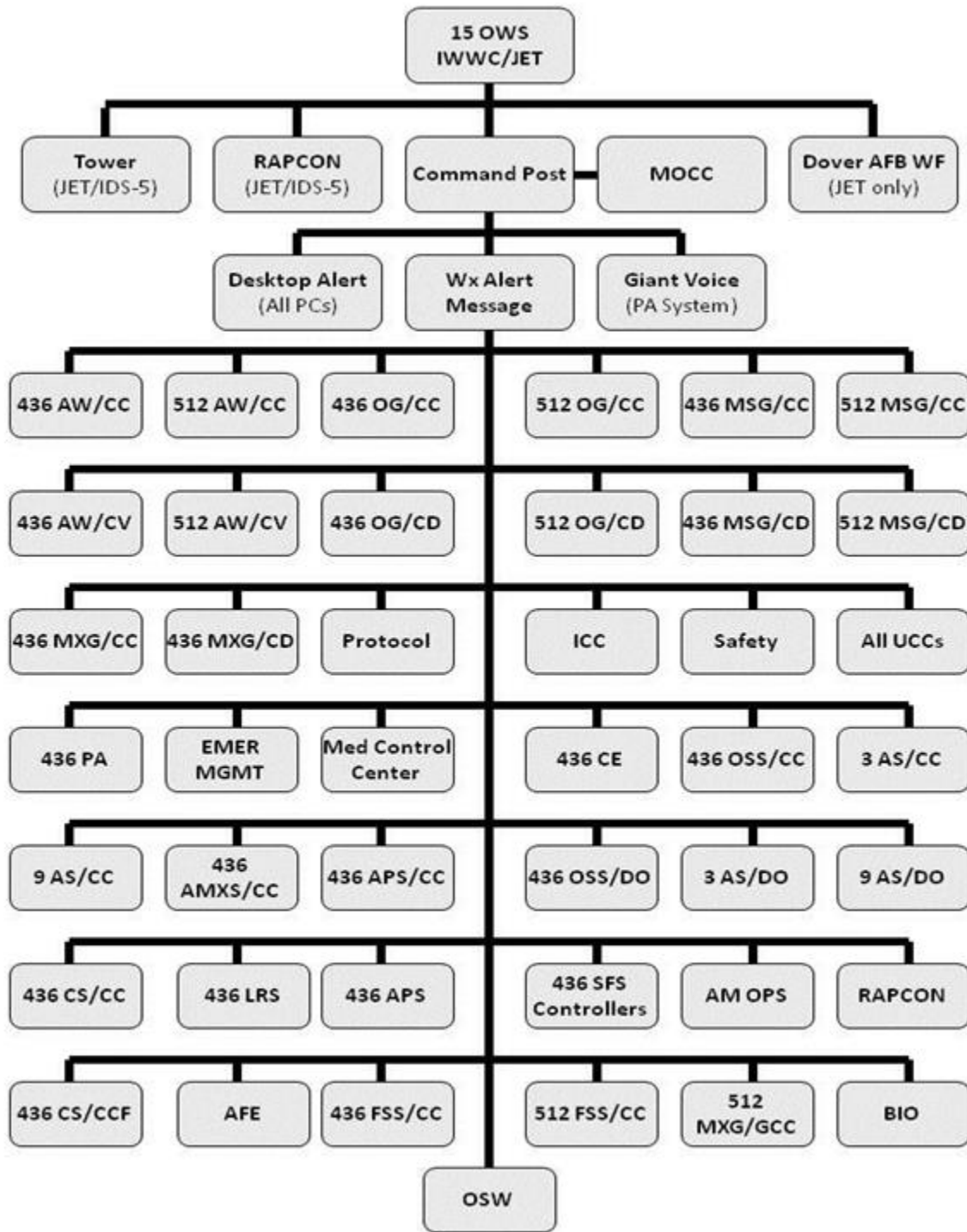
2.5.3. **Significant Weather Timelines.** WF created product used primarily during snow/tropical events, but can be requested by Wing leadership anytime. Timelines are a planning product used to alert Wing leadership about adverse weather. Timelines will be sent via email to Wing leadership as requested, or as significant changes in the forecast warrant new timelines to be created.

2.5.4. **WWAs.** The 15 OWS or the WF enters WWAs into JET for dissemination to ATC, 436 AW/CP, and 436 OSS/OSA Airfield Management. If JET is out-of-service, the 15 OWS or the WF disseminates WWAs via back-up calls. Upon notification, units identified in [Figure 2.1](#) should further disseminate all WWAs using the pyramid notification scheme. In addition, the 436 AW/CP disseminates all WWAs via E-Mail and/or through the AtHoc system.

2.5.4.1. **Lightning Warnings.** All lightning warnings are disseminated by the 436 AW/CP to the base populace via the Giant Voice system.

2.5.4.2. **Tornado Warnings.** The 436 AW/CP has the primary responsibility for sounding the base siren for a tornado warning issuance. In the event the CP system is malfunctioning, the 436 OSS/OSA sounds the siren.

Figure 2.1. Weather Pyramid Alerting



**2.6. Cooperative Weather Watch (CWW).** The WF and ATC have established a CWW IAW AFMAN 15-111. The agreement outlines each unit’s responsibilities when specific meteorological phenomena are observed. Of primary concern is the report of tower visibility differing from the prevailing surface visibility, local PIREPs, and any occurrence of previously

unreported weather conditions that could affect flight safety or be critical to the safety or efficiency of other local operations and resources. WF technicians and ATC personnel should thoroughly understand and be able to execute the CWW agreement. Specifically:

2.6.1. Dover AFB Tower personnel:

2.6.1.1. Notify the weather technician when the observed tower prevailing visibility decreases to less than or increases to equal or exceed 4 miles.

2.6.1.2. Report changes in tower prevailing visibility to the weather technician when tower visibility is less than 4 statute miles and is different than the surface prevailing visibility in the official airfield observation.

2.6.1.3. Notify the weather technician when PIREPs are received of previously unreported weather conditions that could affect flight safety or be critical to the safety or efficiency of other local operations and resources. PIREP information should be relayed to weather personnel no later than 5 minutes after receipt.

2.6.1.4. Notify the weather technician when tower personnel detect significant weather phenomena (i.e., lightning, precipitation, low ceilings, etc.) and the phenomena is not reflected in the current surface weather observation.

2.6.2. Dover AFB weather technicians:

2.6.2.1. Re-evaluate surface prevailing visibility, as soon as practicable, upon initial receipt of a differing control tower value and upon receipt of subsequent reportable changes at the control tower level.

2.6.2.2. Use control tower values of prevailing visibility as a guide in determining the surface visibility when the view of portions of the horizon is obstructed by buildings, aircraft, etc. The presence of a surface –based obscuration, uniformly distributed to heights above the level of the tower, is sufficient reason to consider the prevailing visibility the same as at the control tower level.

2.6.2.3. Include a tower visibility remark in the next METAR or SPECI when either the surface prevailing visibility or the control tower visibility is less than 4 statute miles (6000 meters) and the control tower visibility differs from the surface prevailing visibility by a reportable value.

2.6.3. **ATC Limited Observation Training.** The 436 OSS/OSW oversees the Dover AFB Limited Observation Training Program. ATC personnel requiring training should contact the WF NCOIC at DSN 445-4174/Commercial (302) 677-4175 to schedule an appointment. To satisfy Limited Observation Training requirements, personnel are required to complete a CBT and receive an orientation of the weather facilities.

**2.7. Pilot-to-Metro Service (PMSV) Support.** Weather information is available via PMSV during duty hours on frequency 342.0 MHz. The duty forecaster monitors PMSV traffic for all aircraft contacts. For aircraft outside the range of our PMSV system, the Dover WF can provide PMSV support through a phone patch to the 436 AW/CP (DSN 445-4201/Commercial (302) 677-4201). PMSV outages are discussed in **para 5.3.2**

**2.8. Emergency Action(s) Response.**

2.8.1. **Aircraft Mishap.** When notified on an aircraft mishap, the WF initiates a save of applicable data used in the development of any weather products provided. Archived weather data is available to investigating agencies upon request.

2.8.1.1. If the WF provided the MWP, the WF notifies the 15 OWS Operations Floor Production Supervisor of all aircraft mishaps as soon as possible after notification of the event. The WF coordinates with the 15 OWS to save all applicable data and products. If products from other OWSs were used, the WF coordinates with all applicable OWSs to ensure the correct data is saved. OWSs save sufficient data in order to fully reconstruct environmental conditions before and after the mishap.

2.8.1.2. If an OWS, TACC/XOW, or another WF provided the MWP, they are responsible for conducting the data save in coordination with any other Air Force Weather units involved.

2.8.2. **Severe Weather Action Plan (SWAP).** The SWAP ensures sufficient manpower is available to meet the increased demand for timely weather information during significant weather events. During normal duty hours, the WF duty forecaster initiates the SWAP when any of the criteria in **Table 2.6** are forecast to occur. During non-duty hours, the 15 OWS notifies the WF standby forecaster when conditions listed in **Table 2.6** are forecast to occur. Upon notification from the 15 OWS, the WF standby forecaster initiates the SWAP.

**Table 2.6. Conditions Requiring SWAP Activation**

<b>SWAP ACTIVATION Criteria</b>
Watch for Tornado(s)
Warning for Tornado(s)
Warning for Hail $\geq 3/4$ inch
Warning for Winds $\geq 50$ kts
Warning for Heavy Snow ( $\geq 2$ inches in 12 hours)
Warning for Freezing Precipitation
Ice Pellets are Observed or Forecast to occur within 1 hour

2.8.3. **WF Forecaster Recall Requirements.** If in a limited duty capacity, the WF standby forecaster is notified/recalled under the following circumstances:

2.8.3.1. The 15 OWS notifies the standby forecaster prior to issuing any watch or warning listed in **Table 2.6** for Dover AFB.

2.8.3.2. ATC via the 436 AW/CP or the 15 OWS notifies the standby forecaster when automated weather sensor display data is unavailable.

2.8.3.3. The 15 OWS notifies the standby forecaster when observations are not being transmitted or are not representative of current conditions.

2.8.4. **Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) Response.** The WF works closely with Emergency Management (EM) to ensure supported commanders receive the relevant information needed to obtain a timely and accurate picture of the environmental situation. Upon request, the WF provides EM:

2.8.4.1. Surface observations and/or alphanumeric forecasts representative of the location and time of the CBRNE event.

2.8.4.2. The appropriate Chemical Downwind Messages obtained from the servicing CU.

## Chapter 3

### MISSION SERVICES

**3.1. General.** The WF, 15 OWS, and TACC/XOW support the Dover AFB flying and non-flying missions. This chapter identifies the flying and non-flying missions and the weather support provided.

**3.2. Flying Missions.** The WF and TACC/XOW provide weather support to the flying units listed in [Attachment 7](#). The bulk of flying operations at Dover are supported by the TACC/XOW.

**3.3. Mission Weather Products.** MWPs fuse theater scale products with local mission requirements enabling the direct inject of weather impacts into warfighter planning and/or execution. The result is a product designed to provide timely, accurate, and relevant environmental information for planning and execution. MWPs should be horizontally consistent with (but not necessarily mirror) products issued by any OWS and 557 Weather Wing.

**3.3.1. GDSS Weather Briefings.** GDSS is the primary command and control (C2) system used by AMC owned/gained flying units to obtain weather briefings. GDSS provides a unique product that incorporates the requirements of all Dover-based flying units into a common format. Updates can be obtained by calling TACC/XOW at DSN 576-0353/Commercial (618) 229-0353, or by contacting the WF at DSN 445-4175/Commercial (302) 677-4175.

**3.3.2. 436 OSS/OSW Mission Execution Forecast (MEF).** The 436 OSS/OSW MEF is used to provide standardized weather briefings to non-AMC owned/gained flying units that are briefed by the WF. In the event of a GDSS outage, the WF may also use the 436 OSS/OSW MEF when executing TACC COOP procedures. An example 436 OSS/OSW MEF is in [Attachment 8](#).

**3.3.3. 436 OSS Formal Training Unit (FTU) Support.** The 436 OSS's FTU conducts C-5 training for initial qualification and instructor candidates. The WF produces a two day outlook to assist with mission planning.

**3.4. MISSIONWATCH.** A deliberate process for monitoring terrestrial weather or the space environment for specific mission-limiting environmental factors that may adversely impact missions in execution. The MISSIONWATCH process is intended to identify previously unidentified environmental threats and alert decision-makers at the operational unit and/or airborne mission commanders, enabling dynamic changes to mission profiles that may mitigate the environmental threat and optimize the chance of mission success.

**3.4.1. WF Briefed Sorties.** The WF utilizes a continuous MISSIONWATCH process to validate that MWPs accurately reflect environmental conditions. When MWPs differ from observed conditions to the extent that it has the potential to impact operations, the WF coordinates MWP amendments/updates with the appropriate OWS. Additionally, when previously unforecast weather conditions expose a mission to potential risk, the WF directly updates the 436 AW/CP. The 436 AW/CP retains responsible for relaying updated weather information to the aircrew.

**3.4.2. TACC/XOW Briefed Sorties.** TACC/XOW performs MISSIONWATCH and weather risk assessment for all TACC briefed sorties. TACC uses the Weather Threat Assessment (WTA) to relay information on missions considered “at risk” based on the Operational Risk Management Thresholds identified in AMCI15-101. Users can access the WTA at <https://tacc.scott.af.mil/?action=WTAMain>.

3.4.2.1. The 436 AW/CP automatically receives WTA notifications for wing-specific missions through a subscription service. Upon receipt of weather threat notification, the CP notifies appropriate Squadron Operations Centers/aircrews to pass along weather threats and instruct the aircrew to contact TACC/XOW to mitigate the threat.

3.4.2.2. The WF performs a continuous MISSIONWATCH on all non-IFM Dover AFB sorties not already tracked. Additionally, the WF monitors GDSS for situational awareness on IFM missions involving 436/512 AW assets. The WF coordinates with TACC/XOW whenever observed weather conditions deviate significantly from the published WTA.

**3.5. Post-Mission Analysis/Feedback.** Aircrews should contact TACC/XOW or the WF with post-mission information and/or follow-up support. TACC/XOW and the WF utilize customer feedback to improve internal processes and enhance training, forecast proficiency, and product accuracy. Formal/informal feedback methods include:

3.5.1. Completion of 436 OSS/OSW feedback worksheet located next to the door of the weather flight in bldg. 501 or TACC/XOW feedback solicitation email.

3.5.2. **Completion** of the 436 OSS QR coded customer satisfaction survey.

3.5.3. Phone call or an e-mail to TACC/XOW or the WF.

3.5.4. Face-to-face feedback after briefing and/or mission completion.

**3.6. Transient Aircrew Support.** Transient aircrews may submit request for flight weather briefings (175-1s) in person or via phone using the contact information listed in Para 1.5. If the WF workload is such that they are unable to support transient crew requests (see Table 1.1. for WF duty priorities), the WF may direct aircrews to contact the 15 OWS briefing cell for flight weather information. The 15 OWS briefing cell can be reached at DSN 576-9755/9702, commercial (618) 256-9755/9702, or via web access from the aircrew briefing terminal located in the flight planning room. [https://ows.scott.af.mil/wx\\_brief/index.cfm?UID=&BW=H&UF=O&AOR=1&USEHF=1](https://ows.scott.af.mil/wx_brief/index.cfm?UID=&BW=H&UF=O&AOR=1&USEHF=1)

**3.7. Aero Club Activities.** The WF provides flight weather briefings to Aero Club members performing official Air Force operational duties (i.e. Civil Air Patrol and Initial Flying Training Programs). The WF provides or arranges briefings when such Aero Club flights are in a transient status through the appropriate OWS or Flight Service Station. The WF does not remain open on weekends or times outside normal ATC published operating hours to provide briefings for routine Aero Club flying activities. The WF advises Aero Club members performing official flight duties of the OWS web page request process and self-briefing capabilities.

**3.8. Non-Flying Missions.** The WF and 15 OWS support various non-flying missions (e.g., Wing Picnic, Change of Command ceremonies, Morale Welfare and Recreation events, etc.) with tailored forecast support and RP products (WWAs). Specific support to non-flying missions is identified in **Chapter 4**. Specialized weather information can be provided to support any non-

flying mission upon request. Non-governmental agencies should request weather information and support through 436 Public Affairs.

**3.9. Space Weather Impacts.** Dover AFB has a wide-variety of operations affected by various space-weather parameters (High Frequency and Ultra High Frequency communication, radar, Global Positioning System communications, etc.). The WF and TACC/XOW provide space impacts on their MWPs. More detailed space environmental situational awareness products are available at [https://15ows.us.af.mil/by\\_type/space/index.cfm](https://15ows.us.af.mil/by_type/space/index.cfm)

## Chapter 4

### STAFF SERVICES

**4.1. General.** Staff services are typically accomplished by WF leadership and include meteorological functions (briefings), ensuring the WF is trained and equipped for day-to-day operations, and cultivating relationships with base agencies to ensure WF support is optimal.

**4.2. Staff Meteorological Functions.** Staff meteorological functions aid leadership in identifying and understanding specific weather and environmental impacts. The WF is available to assist commanders in determining weather support requirements and impacts to operations. Examples of staff meteorological functions provided are:

4.2.1. **436 AW Staff Briefings.** Staff weather briefings for 436 AW (Morning Call and Wing stand up) are provided as required. Standard information includes the current Dover 5-Day forecast, satellite/radar imagery and any current Significant Weather Timeline.

4.2.2. **Installation Control Center (ICC)/Crisis Action Team (CAT) Briefings.** The WF provides weather support as required for ICC/CAT briefings. This includes real-world emergency, exercise, and deployment briefings. Each briefing is tailored to provide the appropriate weather intelligence required by the 436th/512th AW leadership.

4.2.3. **Instrument Refresher Course (IRC) Briefings.** IAW AFMAN 11-210, Instrument Refresher Course (IRC) Program, computer based training is available for the weather portion of the briefing. If requested, the WF can provide a briefer to discuss more detailed local weather effects and impacts. This briefing includes airfield and mission services, WF capabilities, RP, seasonal/regional weather and space weather impacts (when applicable). Briefings require at least 2-weeks prior coordination to schedule a weather briefer.

4.2.4. **Predeployment Planning Briefings.** The WF provides pre-deployment weather briefings as requested. Briefing content is tailored to meet customer requirements. For example, an aviation unit receives weather impacts at the deployed location on their flying mission, in addition to the standard surface weather information usually presented to ground units. A ground-based unit receives a briefing on surface temperatures, wind speed, potential for blowing sand and dust, and precipitation.

4.2.5. **Climatology Services.** The WF can provide a wide variety of climatology products upon request. Example products include but are not limited to historical surface observations, long-range outlooks, global cloud cover, and upper level wind climatology.

**4.3. Staff Integration Functions.** WF leadership ensures their unit is adequately resourced to meet both operational and staff requirements. In addition to leadership and management of unit activities, these unit members also function as a direct interface with the supported unit commander and staff, and provide direct support to command, control and planning functions. Specific integration with base agencies is outlined below.

4.3.1. **436 AW Plans (XP).** The WF assists in periodic exercises tailored to upcoming seasonal weather or other environmental concerns and educates base agencies on the purpose and applicability of weather watches, warnings and advisories.

4.3.2. **436 AW CP.** The WF notifies the CP's whenever the WF primary facility is evacuated and/or the AOL is activated.

4.3.3. **436 AW/Public Affairs.** The WF provides tours of the WF facility for community groups and others when coordinated by Public Affairs.

4.3.4. **436 OSS Base Ops (OSAA).** The OWS or WF provides notification of all forecasted weather watches, warnings, and advisories via Integrated Weather Warnings Capability (IWWC), telephone, e-mail, or in-person during airfield hours of operations.

4.3.4.1. The WF notifies the OSAA whenever the WF primary facility is evacuated and/or the AOL is activated.

4.3.4.2. WF leadership participates as a member of the Airfield Operations Board (AOB) as directed in AFI 13-204 Vol III, Airfield Operations Procedures and Programs.

4.3.5. **436 OSS ATC (OSAR/OSAT).**

4.3.5.1. The OWS or WF provides notification of weather watches, warnings, and advisories via IWWC/telephone/or e-mail.

4.3.5.2. The WF notifies the OSAT whenever the WF primary facility is evacuated and/or the AOL is activated.

4.3.6. **436 CES.** The WF provides a monthly climatology report.

4.3.7. **All Supported Flying Units (3 AS, 9 AS, 326 AS, 709 AS).** The WF provides services as outlined throughout this publication.

4.3.8. **436 MXG Maintenance Operation Control Center (MOCC).** The OWS or WF provides notification of weather watches, warnings, and advisories, particularly winds greater than or equal to 20 knots, via IWWC/telephone/or e-mail.

#### **4.4. Reciprocal Support.**

4.4.1. **436 AW CP**

4.4.1.1. Ensure dissemination of all WWA as outlined in Chapter 2 of this document.

4.4.1.2. Immediately notify the WF forecaster-on-duty of any aircraft or ground mishaps (weather-related or not) requiring OPREP-3 reporting or local reporting requirements IAW AFI 10-206

4.4.1.3. Subscribe to and monitor the WTA notifications for Team Dover missions.

4.4.1.4. Upon notification, by either the WF or OWS, of the potential for severe weather, utilize applicable Quick Reaction Checklists (QRCs) to alert wing leadership and various base agencies.

4.4.1.5. Activate base emergency sirens when a WARNING for tornadoes is issued. Disseminate all warnings via email and/or AtHoc.

4.4.2. **436 AW/Public Affairs.** Coordinate requests for weather information from non-DoD agencies and tours of WF facilities with the WF chief.

4.4.3. **436 OSS/OSAA.**

4.4.3.1. Notify WF personnel of in-flight, ground emergencies, or mishaps and termination via the secondary crash network.

4.4.3.2. Activate base emergency sirens when a WARNING for tornadoes is issued and the 436 CP does not have the capability to activate the sirens.

4.4.3.3. Disseminate weather warnings and advisories as outlined in **Chapter 2** of this instruction.

**4.4.4. 436 OSS/OSAT.**

4.4.4.1. Participate in and follow the procedures outlined in CWW program.

4.4.4.2. Notify the WF of all changes in active runway.

4.4.4.3. Provide control tower orientation training for weather personnel

4.4.4.4. Initiate radio checks to ensure proper PMSV operation.

4.4.5. **436AW/SE.** Request a Dover AFB WF briefer for seasonal weather briefings and provide 2 weeks advance notice when possible.

**4.4.6. 436 CS and 436 OSS Airfield Systems Maintenance Flight (OSAM).**

4.4.6.1. Provide, coordinate, or arrange for the installation, maintenance, and repair of weather communication and meteorological sensing equipment except for the communication and meteorological equipment maintained by contract. Maintain and administer JET IAW the memorandum of agreement between 24 AF, AF Director of Weather, and the JET Program Management Office.

4.4.6.2. Coordinate with the weather technician prior to performing maintenance on weather communications or equipment. Ensure routine maintenance does not degrade METWATCH and/or MISSIONWATCH performed by the WF during periods of inclement weather.

4.4.6.3. Utilize the restoration priorities for weather communications and meteorological sensing equipment outlined in this document.

4.4.6.4. Notify the responsible service agents for weather communications and meteorological sensing equipment outages.

4.4.6.5. Coordinate with off-base agencies to repair off base lines.

4.4.6.6. Perform necessary follow-up actions as required until full service is restored.

4.4.6.7. Ensure weather data and telephone circuits are assigned repair priorities.

4.4.6.8. Ensure established maintenance response times are met.

4.4.6.9. Ensure a 24-hour point of contact for reporting outages and assigning job control numbers is available.

4.4.6.10. Perform AN/TMQ-53 Tactical Meteorological Observing System pressure sensor calibrations annually or when comparison between the tactical pressure sensor and aircraft altimeters (or similar reliable sensors) indicate calibration is warranted.

4.4.7. **436 CES.** Contact the WF Chief to request climatological data and specialized support for projects on Dover AFB. Also, will provide heat stress (ex. Black Flag conditions) during summer season via Bioenvironmental Engineering Office.

4.4.8. **436 SFS.** Promptly inform the WF of any hazardous weather reported by Security Forces personnel (e.g., tornado, hail, etc.).

**4.4.9. All Supported Flying Units (3 AS, 9 AS, 326 AS, 709 AS)**

4.4.9.1. Notify the WF of current and planned weather alternates and any special considerations affecting duration of mission (i.e., weather categories, exercise/deployment considerations, etc.).

4.4.9.2. Notify the WF of required additional support as soon as it becomes known to include monitoring of alternate observations/forecast and tracking of weather conditions affecting local flying operations.

4.4.9.3. Provide timely notification of changes to scheduled operations affecting weather support requirements as soon as the change is identified.

4.4.9.4. Provide PIREPS either directly to the WF through the PMSV, to the tower, or to the Supervisor Of Flying (SOF).

4.4.9.5. Provide feedback on weather briefings via e-mail or survey to the WF or TACC/XOW.

4.4.9.6. Provide the WF a minimum of 2 weeks advanced notification of any requirement for training conducted by the WF or any changes in requirements to previously scheduled weather training.

4.4.10. **Base Operations Flight Information Publication (FLIP) Manager.** Submit FLIP updates provided by the WF to Air Force Flight Standards Agency/Operating Location-D (AFFSA)/OL-D.

4.4.11. **436 AMDS/SGPB (Bioenvironmental Flight).** Provide the base populace with the Wet Bulb Globe Temperature (WBGT) as required.

4.4.12. **All Weather Support Recipients.** Notify the WF when new weather support requirements are identified or when changes to current weather support is deemed necessary.

## Chapter 5

### WEATHER EQUIPMENT

**5.1. General.** This chapter provides a brief description of the meteorological and communications equipment used by the WF. Additionally, it provides information on backup systems, maintenance, and restoring priorities.

**5.2. Meteorological Equipment.** The WF uses the FMQ-19 and WSR-88D weather radar to determine the current state of the atmosphere. These critical systems provide customers the most timely, accurate, and relevant weather intelligence possible. Note: TMQ-53 is a tactical automated observing system that is used by the WF during contingency and exercise operations. The TMQ-53 provides a capability that is very similar to the FMQ-19.

5.2.1. **FMQ-19.** The FMQ-19 samples, measures, and reports: temperature, wind speed and direction, visibility, cloud base height and amount of coverage, pressure, liquid equivalent precipitation accumulation, and ice accretion during freezing precipitation. These measurements are processed to create properly formatted, fully automated observations that comply with applicable reporting standards and protocols defined by the World Meteorological Organization (WMO), Federal Aviation Administration (FAA), National Weather Service (NWS), and military reporting standards.

5.2.2. **TMQ-53.** The TMQ-53 samples, measures, and reports: temperature, wind speed and direction, visibility, cloud base height and amount of coverage, pressure, liquid equivalent precipitation accumulation, and ice accretion during freezing precipitation. This is the short-term backup sensor in event that the FMQ-19 is non-mission capable. This is also the sensor that will be deployed if it is needed.

5.2.3. **Kestrel 4000/4500.** The Kestrel is a hand-held observation system used to measure temperatures, wind speeds, pressure, and relative humidity. It is a very short-term backup system used to take manual observations during known short-term outages when the FMQ-19 is inoperable and it has been determined there is no need to set up the TMQ-53.

5.2.4. **Gibson Ridge Radar Software (GRS).** The WF utilizes the GRS applications including GRLevel2 for viewing Level II radar data and GRLevel3 for viewing Level III data. Both viewers feature high speed, high quality radar displays with an intuitive user interface. Weather technicians make use of the software to analyze complex radar signatures and obtain detailed information on storm intensity, movement, internal circulation, and general wind flow. Weather technicians routinely incorporate the latest radar information into all mission execution forecasts and RP products.

**5.3. Communications Equipment.** The following systems are the backbone of the WF communications network:

5.3.1. **Joint Environmental Toolkit (JET).** As discussed in [para 2.5](#) of this instruction, JET is the primary system for disseminating forecast, observations, warnings, watches, and advisories. Telephones are used as a backup for key aircraft controlling agencies.

5.3.2. **Pilot-to-Metro Service (PMSV) Radio.** The PMSV Radio (342.0 MHz) allows the WF to communicate with aircrews, both on the ground and in the air. When the Dover AFB PMSV is out-of- service, the McGuire AFB WF PMSV (239.8 MHz) and Andrew WF

PMSV (344.6 MHz) are alternate locations. Aircrews may also obtain weather information via phone patch to the WF, TACC/XOW, or the 15 OWS.

5.3.3. **Phones/Hotlines.** Phones and hotlines (Tower, RAPCON, and Base Ops) serve primarily for rapidly passing along critical, time- sensitive information, as well as to serve for backup services.

5.3.4. **Local Area Network (LAN).** The WF relies heavily on the LAN to improve the timeliness and accuracy of weather intelligence to our customers.

#### 5.4. Equipment Maintenance.

5.4.1. Organizations providing preventive maintenance and repair of weather and communications equipment are listed in [Table 5.1](#)

**Table 5.1. Equipment Maintenance List**

Organization	Equipment
436 OSS/OSAM (Airfield Systems)	FMQ-19
557 <sup>th</sup> Weather Wing Global Mission Support Center	JET
436 CS/SCXP (Telephone Systems)	Phones/Hotlines
436 CS/SCOI (Network Maintenance)	LAN/Internet Connectivity

5.4.2. **Restoral Priorities.** Priorities for restoring critical systems exist in the event of natural disasters or any other anomaly, simultaneously impacting systems base-wide. **Significant** indicates a situation where the equipment is completely inoperative, while **minimal** means the equipment is in limited operation. Response times for weather equipment are listed in [Table 5.2](#) Below (**priorities may be adjusted based on forecasted weather**).

**Table 5.2. Equipment Restoral Priorities**

Equipment	Organization	Response Times Significant/Minimal
PMSV Radio	436 OSS/OSAM	Immediate/24 hours
FMQ-19	436 OSS/OSAM	Immediate/24 hours
LAN/Internet Connectivity/Phones/Hotlines/JET	436 CS/SCOI	Immediate/12 hours

5.5. **Building Power.** In the event of a commercial power interruption, BLDG 501 automatically switches to generator backup power.

MICHAEL W. GRISMER, JR., Colonel, USAF  
Commander

**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*, 20 Jan 2012

AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, 24 January 2007

AFI 11-202V3, *General Flight Rules*, 7 November 2014

AFI 11-2C-5V3, *C-5 Operations Procedures*, 24 February 2012

AFI 11-2C-17V3, *C-17 Operations Procedures*, 16 November 2011

AFMAN 11-210, *Instrument Refresher Program (IRP)*, 3 February 2005

AFI 13-204V3, *Airfield Operations Procedures and Programs*, 1 September 2010

DOVERAFBI 13-201, *Airfield and Air Traffic Operation*, 26 April 2012

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

AFMAN 15-111, *Surface Weather Observations*, 21 January 2016

AFI 15-114, *Functional Resource and Weather Technical Performance Evaluation*, 7 December 2001

AFMAN 15-124, *Meteorological Codes*, 28 February 2013

AFI 15-127, *Air Force Weather Qualification Training*, 20 January 2016

AFI 15-128, *Aerospace Weather Operations – Roles and Responsibilities*, 07 February 2011

AFMAN 15-129V1, *Air and Space Weather Operations- Characterization*, 06 December 2011

AFMAN 15-129V2, *Air and Space Weather Operations-Exploitation*, 07 December 2011

AFMAN 15-129V2 AMCSUP, *Air and Space Weather Operations-Exploitation*, 27 June 2014

OSAA OI 13-204, *Airfield Management*, April 2014

***Abbreviations and Acronyms***

**AIREP**—Air Report

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFB**—Air Force Base

**AFPD**—Air Force Policy Directive

**AFFSA**—Air Force Flight Standards Agency

**AFWA**—Air Force Weather Agency

**AGL**—Above Ground Level  
**AOL**—Alternate Operating Location  
**AMC**—Air Mobility Command  
**AMOS**—Automated Observing System  
**AMW**—Air Mobility Wing  
**AOR**—Area of Responsibility  
**ARW**—Air Refueling Wing  
**AS**—Airlift Squadron  
**ATC**—Air Traffic Control  
**AW**—Airlift Wing  
**BWW**—Basic Weather Watch  
**CAT**—Crisis Action Team  
**CB**—Cumulonimbus  
**CBRNE**—Chemical, Biological, Radiological, Nuclear, and High-yield Explosive  
**CC**—Commander  
**CES**—Civil Engineering Squadron  
**CONS**—Contracting Squadron  
**CONUS**—Continental United States  
**COOP**—Continuity of Operations Plan  
**CP**—Command Post  
**CS**—Communications Squadron  
**CWW**—Cooperative Weather Watch  
**DA**—Density Altitude  
**DSNT**—Distant  
**EM**—Emergency Management  
**ESTMD**—Estimated  
**EWO**—Emergency War Orders  
**FLIP**—Flight Information Publication  
**FTU**—Formal Training Unit  
**GPS**—Global Positioning System  
**GSU**—Geographically Separated Unit  
**HF**—High Frequency

**IAW**—In Accordance With

**ICAO**—International Civil Aviation Organization

**ICC**—Installation Control Center

**IFM**—Integrated Flight Management

**IRC**—Instrument Refresher Course

**IWWC**—Integrated Weather Warnings Capability

**FRQ**—Frequent

**JET**—Joint Environmental Toolkit

**KT**—Knots

**LAN**—Local Area Network

**LTG**—Lightning

**LWR**—Lower

**METAR**—Meteorological Terminal Aviation Routine Report

**METCON**—Meteorological Conference

**METSAT**—Meteorological Satellite

**METWATCH**—Meteorological Watch

**MOV**—Moving

**MOVD**—Moved

**MWP**—Mission Weather Product

**NWS**—National Weather Service

**OG**—Operations Group

**OHD**—Overhead

**OL-D**—Operating Location-D

**OPR**—Office of Primary Responsibility

**OSAA**—Airfield Management

**OSAT**—Tower

**OSS**—Operations Support Squadron

**OWS**—Operational Weather Squadron

**PA**—Pressure Altitude

**PIREP**—Pilot Report

**PK WND**—Peak Wind

**PMSV**—Pilot-to-Metro Service

**POC**—Point of Contact  
**RDS**—Records Disposition Schedule  
**RP**—Resource Protection  
**RVR**—Runway Visual Range  
**RWY**—Runway  
**SE**—Safety Office  
**SFS**—Security Forces Squadron  
**SM**—Statute Mile  
**SOF**—Supervisor of Flying  
**SOP**—Standard Operating Procedure  
**SPECI**—Special  
**SWAP**—Severe Weather Action Plan  
**SWS**—Special Weather Statement  
**TACC**—Tanker Airlift Control Center  
**TAF**—Terminal Aerodrome Forecast  
**TCU**—Towering Cumulus  
**TWR**—Tower  
**UFN**—Until Further Notice  
**UHF**—Ultra High Frequency  
**UNKN**—Unknown  
**VFR**—Visual Flight Rules  
**VHF**—Very High Frequency  
**VIS**—Visibility  
**WF**—Weather Flight  
**WSHFT**—Wind Shift

**Attachment 2****SPECIAL WEATHER OBSERVATION CRITERIA****A2.1. A Special weather observation is taken and disseminated for listed criteria**

A2.1.1. **Visibility**—When the prevailing visibility decreases below or, if below, increases to equal or exceeds any of the values listed below.

- A2.1.1.1. 3 miles.
- A2.1.1.2. 2 miles.
- A2.1.1.3. 1 ½ miles (Dover specific).
- A2.1.1.4. 1 ¼ miles (Dover specific).
- A2.1.1.5. 1 mile (Circling min).
- A2.1.1.6. ¾ mile.
- A2.1.1.7. ½ mile (Dover specific / Airfield min).
- A2.1.1.8. ¼ mile.

A2.1.2. **Ceiling**—When the ceiling goes below or, if below, increases to equal or exceeds any of the values listed below.

- A2.1.2.1. 3000 FT.
- A2.1.2.2. 2000 FT (Dover specific).
- A2.1.2.3. 1500 FT.
- A2.1.2.4. 1100 FT (Dover specific).
- A2.1.2.5. 1000 FT.
- A2.1.2.6. 800 FT.
- A2.1.2.7. 700 FT.
- A2.1.2.8. 600 FT (Dover specific).
- A2.1.2.9. 500 FT (Circling min).
- A2.1.2.10. 400 FT (Dover specific).
- A2.1.2.11. 300 FT.
- A2.1.2.12. 200 FT (Dover specific/Airfield min).
- A2.1.2.13. 100 FT (Dover specific).

A2.1.3. **Sky Condition**—A layer of clouds (it does not have to be a ceiling) or obscuring phenomena aloft is observed below 1100 feet and no layer was reported below this height in the previous METAR or SPECI.

**A2.1.4. Wind.**

- A2.1.4.1. **Shifts.** A directional change of 45 degrees or more in less than 15 minutes with sustained winds of 10 knots or more throughout the wind shift.

A2.1.4.2. **Squall.** A strong wind characterized by a sudden onset in wind speed increasing at least 16 knots and sustained at 22 knots or more for at least 1 minute.

A2.1.5. **Volcanic Eruption.** Eruption or volcanic ash cloud first noted.

A2.1.6. **Thunderstorm.**

A2.1.6.1. **Begins** (Note: A Special observation is not required to report the beginning of a new thunderstorm if one is currently reported as in progress at the airfield)

A2.1.6.2. **Ends** (Note: 15 minutes after the last occurrence of criteria for a thunderstorm; an audible sound of thunder, lightning within five (5) NM of the airfield etc.).

A2.1.7. **Precipitation.**

A2.1.7.1. Hail begins or ends.

A2.1.7.2. Freezing precipitation begins, ends, or changes intensity.

A2.1.7.3. Ice pellets begin, end, or change in intensity.

A2.1.7.4. Any other type of precipitation begins or ends. Note: Except for freezing rain, freezing drizzle, hail, and ice pellets, a Special observation is not required for changes in type (e.g., drizzle changing to snow grains) or the beginning or ending of one type while another is in progress (e.g., snow changing to rain and snow).

A2.1.8. **Tornado, Funnel Cloud, or Waterspout.** When a tornado is first observed, disappears from sight, or ends.

A2.1.9. **Runway Visual Range (RVR).** WF provides RVR output according to the specifications listed in [Table A2.1](#)

**Table A2.1. RVR Reporting.**

<b>Runway Visual Range (RVR)</b>
- Prevailing visibility first observed < 1SM/1600 meters, again when prevailing visibility goes above 1SM/1600 meters.

-RVR for active runway decrease to less than or, if below, increase to equal or exceed:

- 6,000 feet

- 5,000 feet

-4,000 feet (Dover specific)

-2,400 feet (Airfield min)

- 2,000 feet

-1,800 feet (Dover specific)

-1,600 feet

-1,200 feet (Dover specific)

-1,000 feet

-600 feet

- All published RVR minima applicable to the runway in use.

- RVR is first determined as unavailable (RVRNO) for the runway in use, and when it is first

A2.1.10. **Upon Resumption of Observing Services.** Take, disseminate, and record a SPECI within 15 minutes after returning to duty following a break in hourly coverage, if a METAR was not filed as scheduled during the 15-minute period.

A2.1.11. **Aircraft Mishap.** When notified of an aircraft mishap, the WF checks the latest AN/FMQ- 19 observation (i.e., METAR/SPECI/OMO (one minute observation) and performance augmentation/back-up if required. When operating in a back-up mode WF immediately takes a SPECI observation IAW AFMAN 15-111.

A2.1.12. **Tower Visibility.** When the tower visibility goes below or, if below, increases to equal or exceeds 1, 2, or 3 statute miles (per FAA JO 7110.65V Air Traffic Organization Policy) and the control tower visibility differs from the prevailing visibility reported in the official observation.

A2.1.13. Any other meteorological situation that, in the weather technician's opinion, is critical

## Attachment 3

## FORECAST SPECIFICATION AND AMENDMENT CRITERIA

**A3.1. Terminal Aerodrome Forecasts (TAFs).** Specify the onset, duration, and intensity for the criteria listed in this [Table A3.1](#) and [A3.2](#) TAFs are amended when forecast/observed conditions do not match conditions specified in the TAF.

**A3.2. Ceiling and/or Visibility.** Forecast to decrease to less than; if below, is forecast to increase to equal or exceed the thresholds listed in [Table A3.1](#)

**Table A3.1. Ceiling and Visibility Specification and Amendment Criteria**

Ceiling	Visibility
2,000 FT	3 SM (4,800 M)
1,000 FT	2 SM (3,200 M)
600 FT	2 SM (3,200 M)
100 FT	1/2 SM (800 M)
<100FT	<1/2 SM (800 M)

**Table A3.2. Standard Specification and Amendment Criteria Other Than Ceiling and Visibility**

	Specification	Amendment
<b>Surface Wind Speeds</b>	Specify wind speed changes of 10 knots or more	Amend if the difference between the predominant wind speed (or gust) and the forecast wind speed (or gust) is 10 knots or more.
<b>Surface Wind Gusts</b>	Specify onset, duration, and intensity of wind gusts	Amend if wind gust speed is in error by 10 knots or more
<b>Surface Wind Direction</b>	Specify a change in prevailing wind direction of more than 30 degrees when the predominant wind speed or gusts are expected to be more than 15 knots	Amend if prevailing wind speed is in error by more than 30 degrees AND winds are more than 15 knots
<b>Icing</b> , not associated with thunderstorms, from the surface to 10,000 feet AGL	Onset, duration, type and intensity	Amend if beginning or ending of icing meets, exceeds, or decreases to less than moderate (or greater) intensity and was improperly specified in the forecast.
<b>Turbulence</b> (for Cat II aircraft), not associated with thunderstorms, from the surface to 10,000 feet AGL	Onset, duration, type and intensity	Amend if the beginning or ending of turbulence meets, exceeds, or decreases to less than moderate (or greater) intensity and was improperly specified in the forecast.
<b>Weather Warning Criteria (that can be specified in the TAF) - including non-convective low-level wind shear.</b>	Occur, or are expected to occur, during the forecast period. A forecast WW has been issued (ensures consistency between forecast WW and/or WA and the TAF)	Amend if weather warning criteria occurs, or is expected to occur, during the forecast period, but was not specified in the forecast.

<b>Altimeter Setting</b>	Specify the onset of altimeter settings meeting or exceeding 31.00 INS or altimeter settings 28.00 INS or less. If less than the threshold specify when altimeter settings equal or exceed the thresholds, if greater than, specify	Amend if the altimeter setting meets, or is expected to meet the threshold and was not specified in forecast
<b>Forecast Weather Advisory Criteria (issued for TAF amendable criteria) - including non-convective low-level wind shear.</b>	Occur, or are expected to occur, during the forecast period. A forecast WA has been issued (ensures consistency between forecast WW and/or WA and the TAF)	Amend if the forecast weather advisory criteria is improperly specified, occurs and was not forecast, or is no longer expected to occur
<b>Thunderstorms</b>	Specify onset, duration, type and intensity of thunderstorms at the aerodrome complex	Amend if the start or end time of the thunderstorm is incorrectly specified
<b>Temporary Conditions</b>	Specify the onset and duration of temporary conditions	1. Amend if temporary conditions become predominant. 2. Amend if temporary conditions do not occur as forecast. 3. Amend if temporary conditions are no longer expected to occur.
<b>Changes to Predominant Conditions</b>	Specify the onset, duration, and intensity (if applicable) of changes to predominant conditions	Amend if forecast changes conditions occur before the specified period of change, do not occur, or are no longer expected to occur.
<b>Representative Conditions</b>		Amend if forecast conditions are not considered representative of the characterized state of the atmosphere and an amendment improves safety, flight planning, operational efficiency, or assists

## Attachment 4

SAMPLE WEATHER PRODUCT DISSEMINATION FORMAT/INTERPRETATION  
OBSERVATION/TAF/WWAS

Table A4.1. Sample Weather Observations.

12345678910		
SPECI KDOV 1506Z AUTO 17013G22KT 2 1/2 RVRNO TSRA BKN015CB OVC030 76/75 ALSTG 29.99 RMK AO2 TS OHD MOV NE		
1112		
<b>Body of Report - Consists of 11 Groups Plus a Remarks Group</b>		
Group	Reference	Brief Description
Type of Report	A4.1.	Indicates type of report.
Station Identifier	A4.2.	A four-character group used to identify the observing location.
Date and Time of Report	A4.3.	Date and time of the report.
Report Modifier	A4.4.	A report modifier ( <b>COR</b> ) identifying report as a correction, or <b>AUTO</b> indicating the weather observation is a fully automated report with no human intervention. Gusts are appended if available.
Wind	A4.5.	Indicates wind direction and speed.
Visibility	A4.6.	Provides prevailing visibility from the designated point of observation in statute miles or meters.
Runway Visual Range	A4.7.	10-minute RVR or varying RVR in hundreds of feet or meters.
Present Weather	A4.8.	Any weather occurring at the observing location, obscurations to vision, or other phenomena.
Sky Condition	A4.9.	State of the sky in terms of sky cover, layers and heights, ceilings and obscurations.
Temperature and Dew Point	A4.10.	Measure of hotness/coldness of ambient air. Dew point measures saturation point temperature.
Altimeter	A4.11.	Indicates altitude above MSL of an aircraft on the ground.
Remarks	A4.12.	Remarks generally elaborate on parameters reported in the body of the report, and are included in all METAR and SPECI observations.

**A4.1. Surface Observations**

A4.1.1. **Type of Report.** METAR or SPECI.

A4.1.2. **Station identifier, also called the ICAO.** This code identifies the location of the observation.

A4.1.3. **Date and Time of Report.** This is in Zulu (GMT) of the last element of the observation.

A4.1.4. **Report Modifier.** The report modifier can be either of the following two elements:

A4.1.4.1. **Corrected (COR).** Entered into the report modifier group when a corrected METAR or SPECI is transmitted.

A4.1.4.2. **Automated (AUTO).** Identifies the report as a fully automated report with no human intervention.

A4.1.4.2.1. AUTO is automatically included in reports when the weather technician signs off the AMOS indicating the observations are no longer being augmented.

A4.1.4.2.2. AUTO and COR are not seen in the same observation. If the term COR is used, the observation cannot be reported as AUTO, since a weather technician is manually correcting the observation.

A4.1.5. **Wind.** The true direction the wind is blowing from is encoded in tens of degrees using three figures. Directions less than 100 degrees are preceded with a "0." The wind speed is entered as a two or three digit group immediately following the wind direction.

A4.1.5.1. **Gust.** The wind gust is encoded in two or three digits immediately following the wind speed. The wind gust is encoded in whole knots using the units and tens digits and, if required, the hundreds digit.

A4.1.5.2. **Variable Wind Direction (speeds 6 knots or less).** Variable wind direction with wind speed 6 knots or less may be encoded as VRB in place of the direction.

A4.1.5.3. **Variable Wind Direction (speeds greater than 6 knots).** Wind direction varying 60 degrees or more with wind speed greater than 6 knots are encoded as variable. The variable wind direction group is immediately following the wind group. The directional variability is encoded in a clockwise direction. For example, if the wind is variable from 180 degrees to 240 degrees at 10 knots, it would be encoded 21010KT 180V240.

A4.1.5.4. **Calm Wind.** Calm wind is encoded as 00000KT.

A4.1.6. **Visibility.** The furthest predominant distance (at least 50% of the aerodrome) seen from the airfield reported in statute miles. The most common visibility reported is 7 miles.

A4.1.7. **Runway Visual Range.** The maximum distance in the direction of takeoff or landing at which the runway, or specified lights or markers delineating it, can be seen from a position above a specified point on its center line at a height corresponding to the average eye level of pilots at touch-down.

A4.1.8. **Present Weather.** Any weather phenomenon occurring on the airfield. This is mandatory anytime the visibility is less than 7 miles. [Table A4.2](#) lists present weather codes:

**Table A4.2. Weather Phenomena Codes.**

Qualifier	Weather Phenomena			
	Descriptor	Precipitation	Obscuration	Other
- Light	MI (Shallow)	DZ (Drizzle)	BR (Mist)	PO (Developed Dust/Sand Whirls)

Moderate	PR (Partial)	RA (Rain)	FG (Fog)	SQ (Squall)
+ Heavy	BC (Patches)	SN (Snow)	FU (Smoke)	FC (Funnel Cloud, Tornado, or Water Spout)
VC (Vicinity)	DR (Low Drifting)	SG (Snow Grains)	VA (Volcanic Ash)	SS (Sandstorm)
	BL (Blowing)	IC (Ice Crystals)	DU (Dust)	DS (Dust Storm)
	SH (Showers)	PL (Ice Pellets)	SA (Sand)	
	TS (Thunderstorms)	GR (Hail)	HZ (Haze)	
	FZ (Freezing)	GS (Small Hail or Snow Pellets)	PY (Spray)	
		UP (Unknown Precip)		

A4.1.9. **Sky Condition and Cloud Height.** Describes the amount of clouds present at the airfield and the base of each cloud deck. They fall into the following categories:

A4.1.9.1. **Sky Condition.**

A4.1.9.1.1. **SKC** – Sky Clear.

A4.1.9.1.2. **FEW** – 1/8 to 2/8 coverage.

A4.1.9.1.3. **SCT** – Scattered; 3/8 to 4/8 coverage.

A4.1.9.1.4. **BKN** – Broken; 5/8 to 7/8 coverage.

A4.1.9.1.5. **OVC** – Overcast; 8/8 coverage.

A4.1.9.1.6. **VV** – Vertical visibility; normally used during heavy fog, indicates how far up into the fog can be seen.

A4.1.9.1.7. **FEW000** – Surface-based obscuration.

A4.1.9.2. **Cloud Height.** Three-digit number provides the height of the base of the cloud in hundreds of feet (e.g., 015 equals 1,500 feet). The CB and TCU descriptors may be appended to the cloud height to indicate the cloud is a cumulonimbus or towering cumulus.

A4.1.10. **Temperature and Dew Point.** Reported in degrees, either Fahrenheit or Celsius.

A4.1.11. **Altimeter Setting.** The current value aircraft altimeters must be set at to read an elevation of zero. The altimeter is measured in inches (INS) of mercury.

A4.1.12. **Remarks.** [Table A4.3](#) contains some of the most commonly seen remarks in observations:

**Table A4.3. Remarks Listing.**

AO2—Automated sensor indicator
CB—Cumulonimbus
DA—Density Altitude
DSNT—Distant

ESTMD—Estimated
FROPA—Frontal Passage
LTG—Lightening
LWR—Lower
MOV—Moving
MOVD—Moved
OHD—Overhead
PA—Pressure Altitude
PK WND—Peak Wind
PRESFR—Pressure Falling Rapidly
PRESRR—Pressure Rising Rapidly
RWY—Runway
TCU—Towering Cumulus
TWR—Tower
UNKN—Unknown
VIS—Visibility
WSHFT—Wind Shift

#### A4.2. Terminal Aerodrome Forecast (TAF).

**Table A4.4. Sample TAF.**

TAF KDOV 0313/0419 14006KT 9999 BKN040 QNH2996INS
BECMG 0318/0319 20010G15KT 9999 BKN040 620406 QNH2993INS
BECMG 0320/0321 19015G20KT 8000 -SHRA FEW025 OVC040 610406 QNH2991INS
TEMPO 0323/0403 VRB10G20KT 3200 -TSRA BKN015CB BKN035
BECMG 0404/0405 21007KT 9000 -RA FEW025 BKN060 620604 QNH2992INS
BECMG 0417/0418 21012KT 9999 NSW FEW030 BKN050 620505 QNH2997INS
TX12/0322Z TN03/0313Z

A4.2.1. The forecast follows the same general format as the observation with the following exceptions noted:

A4.2.1.1. **Valid Date/Time.** Forecasts are valid for a 30-hour period. In this example, the forecast is valid from the third at 1300Z until the fourth at 1900Z.

A4.2.1.2. **BECMG** – This is a code to indicate the predominant conditions are going to change to (or become) the conditions listed in the line of the forecast. The conditions are changing during the time period following the BECMG code (1800 to 1900Z in the example above).

A4.2.1.3. **TEMPO** – This code means the conditions listed on the line may occur for periods of an hour or less (1 hour and 15 minutes or less for thunderstorms) anytime between the time frame following the TEMPO code (2300Z to 0300Z in this example).

A4.2.1.4. **Maximum Temperature/Minimum Temperature.** TX12 indicates a maximum temperature of 12°Celsius to occur at 22Z. TN03 indicates a minimum temperature of 03°Celsius to occur at 13Z (**Note:** M indicates a minus sign in front of the number: M05 = -5°Celsius).

#### A4.2.2. Special Codes

A4.2.2.1. **Turbulence.** Turbulence is depicted by the 5 group. (Example: 510001.) In this example the 5 represents turbulence, the 1 represents type and strength of the turbulence, 000 represents the height in which the turbulence is noticed and the 1 represents how high into the atmosphere the turbulence extends in thousands of feet.

A4.2.2.2. **Icing.** Icing is depicted by the 6 group. (Example: 610501.) In this example the 6 represents icing, the 1 represents type and strength of the icing, 040 represents the height in which the icing is noticed and the 1 represents how high into the atmosphere the icing extends in thousands of feet.

### A4.3. Weather Warnings, Watches, and Advisories.

#### Table A4.5. Observed Weather Warning.

DOVER AFB WEATHER WARNING 05-001

VALID 17/1921Z (17/1321L) TO UFN LIGHTNING IS OBSERVED WITHIN 5NM 08/RS

1. FORECAST WEATHER WARNING. DOVER AFB

WEATHER WARNING 11-051

VALID 10/1500Z (10/0900L) TO 10/2200Z (10/1600L)

WINDS ASSOCIATED WITH MODERATE THUNDERSTORMS ARE FORECAST TO BE 35-49 KNOTS AT DOVER AFB. MAXIMUM GUST EXPECTED: 41 KNOTS 18/THB

WEATHER WATCH.

DOVER AFB WEATHER WATCH 05-215

VALID 15/1858Z (15/1358L) TO 15/2100Z (15/1600L)

A LIGHTNING WATCH IS NOW IN EFFECT FOR DOVER AFB UNTIL 1600L. A WARNING WILL BE ISSUED LATER IF REQUIRED.

58/GO

3. OBSERVED WEATHER ADVISORY. DOVER AFB

WEATHER ADVISORY 09-134 VALID 08/1408Z

(080908L) TO UFN

OBSERVED LIGHTNING WITHIN 10 NM OF DOVER AFB. 44/ST

## Attachment 5

## CUSTOMER RESPONSE MATRIX

Weather Phenomena	Lead Time	Impact	Warfighter Action
Tornado	15 min	Personal injury Equipment damage	Seek shelter
Hail (3/4" or more)	60 min	Personal injury Equipment damage	Seek shelter; hangar or divert aircraft
Freezing Precipitation	60 min	Delay or cease operations	Cease flying; hangar or protect aircraft
Surface winds $\geq 50$ knots	60 min	Flight hazard Equipment damage Maintenance Delays	Cease unnecessary flying; secure or hangar aircraft; secure light objects outside
Surface winds $\geq 35$ knots < 50 knots	60 min	Flight hazard Equipment damage Maintenance delays	Cease unnecessary flying; secure or hangar aircraft Maintenance impacted
Lightning w/in 5 nm of Dover AFB	Observed	Delay operations	Cease flightline work; clear pool/golf course
Lightning w/in 10 nm of Dover AFB	Observed	Increase vigilance	Clear pool/golf course
Surface winds $\geq 20$ knots	Observed	Equipment damage Maintenance Delays	Secure light objects outside Maintenance impacted
Low Level Wind Shear below 2000 feet AGL	Observed	Delay or cease operations	Delay or cease take-off/landing evaluate shear conditions
Snowfall $\geq 2$ inches in < 12 hours	60 minutes	Delay operations	Activate snow removal plan hangar aircraft
Equivalent Wind Chill Temp < +15°F	Observed	Slow/delay outside work	Work 40 minutes;
Equivalent Wind Chill Temp < -20°F	Observed	Slow/delay outside work	Rest 20 minutes in heated area Work 30 minutes;
Equivalent Wind Chill Temp < -30°F	Observed	Stop outside work	Rest 30 minutes in heated area Stay indoors

## Attachment 6

### FLYING UNITS SUPPORTED & MISSION LIMITING ENVIRONMENTAL CONDITIONS

Table A6.1. Flying Units Supported.

Organization	Mission	MWP Provider
436th Airlift Wing (C-5/C-17)	Provide airlift and training missions for war, peacetime, and contingency requirements.	TACC/XOW
512th Airlift Wing (AFRES) (C-5/C-17)	Provide airlift and training missions for war, peacetime, and contingency requirements.	TACC/XOW

## A6.1. Mission Limiting Thresholds.

A6.1.1. **Airframe-Specific Weather Limitations.** Table A6.2 - A6.10 provide the general airframe weather limitations based on AFI 11-202V3, *General Flight Rules* and the limitations from aircraft specific AFI 11-2.

Table A6.2. USAF General Flight Rules Weather Limitations.

(Ref: AFI 11-202V3)		
Weather Condition	Impact	Customer Action
Cig/Vis < 2,000 / 3	Alternate required	Add fuel to allow divert
Cig/Vis < 1,000/ 2, if MAJCOM approved	Alternate required	Add fuel to allow divert
Cig/Vis < 500 / 2	Terminal not suitable for alternate	Select another alternate

Table A6.3. C-5M/C-17 Weather Sensitivities.

ACFT TYPE	ICING			CLEAR AIR TURBULENCE			
	LGT	MDT	SVR	LGT	LGT-MDT	MDT	SVR
C-5			FCST/OBS				AVOID
C-17			FCST/OBS				FCST/OBS
	MOUNTAIN WAVE TURBULENCE			TSTM AVOIDANCE			
	LGT	MDT	SVR	FL / DIST		FL / DIST	
C-5		FCST/OBS	FCST/OBS	BELOW 230 / 10NM		ABOVE 230 / 20NM	
C-17		FCST/OBS	FCST/OBS	BELOW 230 / 10NM		ABOVE 230 / 20NM	
	PRECIPITATION		X-WIND LIMITS (KTS)		TAIL WIND LIMITS (KTS)		
	FZDZ	FZRA	DRY RWY	WR//	DRY RWY	WR//	
C-5	NO	NO	25	25	10	10	
C-17	NO	NO	30	30	10	10	

Table A6.4. C-5M/C-17 ELECTRO OPTICAL/NIGHT VISION GOGGLE (NVG).

ELECTRO OPTICAL/NIGHT VISION GOGGLE (NVG)
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CLR - SCT	BKN	OVC
Absolute Hum < 14 g/m <sup>3</sup>	Moonrise / Moonset	No Moon
Transmissivity > 0.4	Absolute Hum 14 – 18 g/m <sup>3</sup>	Absolute Hum > 18 g/m <sup>3</sup>
No TURB	Transmissivity 0.2 – 0.4	Transmissivity < 0.2
No Precip	LGT – MDT TURB	SVR TURB
NVG > 5 Millilux	LGT – MDT Precip	HVY Precip
GO	NVG 2.5 – 5 Millilux	NVG < 2.5 Millilux
	MARGINAL	NO GO

A6.1.2. **Pilot-Specific Limitations.** Per AFI 11-2C-5V3, there are no pilot specific weather limitations for Dover's C-5's. Warfighters are informed of current and changing weather conditions via any various forms of the MEF (see Chapter 4.4).

A6.1.3. **Mission-Specific Weather Limitations.** The following provides a summary of Weather, Altitude and Event Minimums for C-5 and C-17 aircraft associated with Dover AFB. Winds of 50 knots or greater puts weather below minimums for the airfield as well.

**Table A6.4.1. C-5 Weather Thresholds (Provided by OGV Jan 2010) (Ref AFI 11-2C-5v3).**

C5M	CIG (feet AGL)	VIS (SM)	TS (coverage)	Turb (CAT 2)	Icing	In-Flight VIS	Crosswind (C5)
<b>Touch-n-Gos</b>							
(Go)	≥ 2300	≥ 3	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	< 18KT
(No-Go)	< 300	< 3/4	≥ SCT	≥ SEVERE	≥ MODERATE	n/a	≥ 18KT
<b>Tactical Employment Tng</b>							
(Go)	≥ 5500	≥ 3 SM	≤ ISOLD	≤ MODERATE	≤ LIGHT	≥ 3 SM	n/a
(No-Go)	< 5500	< 3 SM	≥ SCT	≥ SEVERE	≥ MODERATE	< 3 SM	n/a
<b>Air Refueling</b>							
(Go)	n/a	n/a	None	< Moderate	≤ LIGHT	≥ 1 NM	n/a
(No-Go)	n/a	n/a	≥ ISOLD	≥ Moderate	≥ MODERATE	< 1 NM	n/a
<b>Takeoff</b>							
(Go)	≥ 600	≥ 2	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	< 25KT
(No-Go)	< 200	< 1/2	≥ SCT	≥ SEVERE	≥ SEVERE	n/a	≥ 25KT
<b>Landing</b>							
(Go)	≥ 600	≥ 2	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	< 25KT
(No-Go)	< 200	< 1/2	≥ SCT	≥ SEVERE	≥ SEVERE	n/a	≥ 25KT

**Table A6.4.2. C-17 Weather Thresholds (Provided by OGV Jan 2010) Ref AFI 11-2C-17V3).**

C17A	CIG (feet AGL)	VIS (SM)	TS (coverage)	Turb (CAT 3)	Icing	In-Flight VIS	Crosswind (C17)
<b>Transition Training</b>							
(Go)	≥ 2300	≥ 3	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	≤ 25

(No-Go)	< 300	< 3/4	≥ SCT	≥ SEVERE	≥ MODERATE	n/a	> 25
<b>NVG</b>							
(Go)	≥ 2300	≥ 3	≤ ISOLD	< MODERATE	≤ LIGHT	n/a	≤ 15
(No-Go)	< 1500	< 3	≥ SCT	≥ SEVERE	≥ MODERATE	n/a	> 15
<b>Air Refueling</b>							
(Go)	n/a	n/a	≤ ISOLD	< MODERATE	≤ LIGHT	≥ 1NM	n/a
(No-Go)	n/a	n/a	≥ SCT	≥ SEVERE	≥ SEVERE	< 1NM	n/a
<b>Landing Zone (KXNO)</b>							
(Go)	≥ 1800	≥ 3	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	≤ 25
(No-Go)	< 600	< 2	≥ SCT	≥ SEVERE	≥ MODERATE	n/a	> 25
<b>Landing Zone (KNEL)</b>							
(Go)	≥ 2100	≥ 3	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	≤ 25
(No-Go)	< 600	< 2	≥ SCT	≥ SEVERE	≥ MODERATE	n/a	> 30
<b>Low Levels</b>							
(Go)	≥ 1500	≥ 3	≤ ISOLD	≤ MODERATE	≤ LIGHT	≥ 3	n/a
(No-Go)	< 300	< 1	≥ SCT	≥ SEVERE	≥ MODERATE	< 1	n/a
<b>Takeoff</b>							
(Go)	≥ 600	≥ 2	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	≤ 30KT
(No-Go)	< 200	< 1/2	≥ SCT	≥ SEVERE	≥ SEVERE	n/a	> 30KT
<b>Landing</b>							
(Go)	≥ 600	≥ 2	≤ ISOLD	≤ MODERATE	≤ LIGHT	n/a	≤ 30KT
(No-Go)	< 200	< 1/2	≥ SCT	≥ SEVERE	≥ SEVERE	n/a	> 30KT

**Attachment 7**

**MISSION EXECUTION FORECAST EXAMPLE**

**Figure A7.1. Mission Execution Forecast Example**

436WF MISSION EXECUTION FORECAST WORKSHEET										
PART I - TAKE OFF DATA										
1. DATE [Z]	2. ACFT TYPE / HQ	3. DEP PT / ETD	4. TEMP	5. DEW PT	6. ALSTC	6A. PRES ALT	7. HIB CIG	8. HIB VIS		
3. SFC WIND [KT]	3A. CROSS WINDS		11. LOCAL WEATHER WATCH/WARNING/ADVISORY				12. RSC / RCR			
13. REMARKS / HAZARDS / TAKEOFF ALTM FCST					DELHARTA FLIGHT LEVEL WINDS					
PART II - ENROUTE & MISSION DATA										
14. FLIGHT LEVEL WINDS / TC			15. SPACE WEATHER				16. SOLAR/LEW			
SEE ATTACHED			CLEAR NO IMPACT MARGINAL SEVERE				DMNT 1118 Z DOVER AFD, DE			
			RF				SR 1221 Z HR 1023 Z			
			MBF				SS 2149 Z MS 2003 Z			
			GPS				EENT 2252 Z ILLUM 06 X			
22. THUNDERSTORMS			23. TURBULENCE			24. ICING			25. PRECIPITATION	
CHART			CHART			CHART			CHART	
NONE AREA LINE			NONE IN CLEAR IN CLOUD			NONE RIME MIXD CLR			NONE DRIZZLE RAIN SNOW ICE PRIPRT	
ISOLATED 1-2X			LIGHT			TRACE			LIGHT	
FEW 1-3X			MODERATE			LIGHT			MODERATE	
SCATTERED 16-45X			SEVERE			MODERATE			HEAVY	
NUMEROUS > 45X			EXTREME			SEVERE			SHOWERS	
MAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIPITATION, LIGHTNING & WIND SHEAR EXPECTED IN AND NEAR THUNDERSTORMS			LEVELS			LEVELS			FREEZING	
LOCATION			LOCATION			LOCATION			LOCATION	
PART III - AERODROME FORECASTS										
26. STATION	27. VALID TIME	8. SFC WIND [KT]	23. VSBY/WX	28. CLOUD LAYERS			9. TEMP	6. ALSTC [IBK]	31. PA	
DESTINATION	TO	T					°C		FT	
ALTERNATE	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
DEST/ALTN	TO	T					°C		FT	
PART IV - COMMENTS/REMARKS										
32. BRIEFED RSC/RCR		YES	X NOT AVAILABLE		KDOY	33. PHSV	342.0	34. ATTACHMENTS		
								YES	NO	
<p>*** PLEASE PROVIDE PIREP AT TAKE-OFF, LANDING, OR FOR SIG WX ***</p> <p>*** CALL DSN 445-4175/4176 (COMM 302-677-4175/4176) FOR OFFICIAL BRIEF TIME AND INITIALS/UPDATES ***</p> <p>FOR UPDATES TO YOUR WEATHER IN: NE US &amp; CANADA DSN 312-576-9755 (COMM 610-256-9755)</p> <p>WESTERN US &amp; SOUTH. AMERICA DSN 312-228-1977 (COMM 520-228-1977)   S. CENTRAL US DSN 312-781-3024 (COMM 310)</p> <p>SE US &amp; SW ASIA DSN 312-965-0500 EX 222-225 (COMM 803-895-0500 EX 222-225)   RUSSIA DSN 312-271-6500 (COMM 402-294-6500)</p> <p>EUROPE &amp; AFRICA DSN 314-496-6145/46 (COMM 06302-67-6145)   SE ASIA DSN 315-225-3174/4466 (COMM 011-81-3117-55-3174/4466)</p>										
PART V - BRIEFING RECORD										
35. MY BRIEFING TIME		37. PILOTS BRIEFING BA		38. PADD/CALYD/C INITIALS		39. BAMP AP DFCAN DFCFINC DFCFINC				
40. VAIN TIME		41. PYPFRFB TA / INITIALS		42. MY DFBDFP TIME / INITIALS		43. MY DFBDFP TIME / INITIALS				

## Attachment 8

**HURRICANE/ TROPICAL STORM SUPPORT**

**A8.1.** The WF receives the National Hurricane Center (NHC) tropical cyclone forecasts. These forecasts are issued as military and public advisories, and include information describing the initial and forecast locations, movement, intensity, and horizontal dimensions of significant winds.

**A8.2.** Forecasts, which could change Hurricane Conditions, will be relayed to Command Post and/or the ICC/CAT.

**A8.3.** The WF cannot deviate from the official NHC forecast position, track, movement, maximum wind speed, or intensity. However, the WF can provide tailored weather forecasts for DAFB based on the NHC forecast. In addition, the WF will ensure that leadership understands that the 48-hour and 72-hour outlooks (or longer if issued) contain a high degree of uncertainty, are for planning purposes only, and are subject to change. This notification will include the forecast error probability statements included in the discussion bulletins or on the forecast products. The tailored forecasts for DAFB will be collaborated with the 15 OWS in the form of a Tropical Cyclone Threat Assessment Product that is posted to the 15 OWS webpage when a tropical system poses a threat to the 15 OWS AOR. HURRTRAK software will be used as a back-up and to further tailor the NHC/15 OWS products. [https://ows.scott.af.mil/index.cfm?fuseaction=by\\_type.tropical.none&UID=&BW=H&UF=M&AOR=1&USEHF=1](https://ows.scott.af.mil/index.cfm?fuseaction=by_type.tropical.none&UID=&BW=H&UF=M&AOR=1&USEHF=1)

**A8.4. Hurricane Conditions (HURCON).** Actions taken by 436 AW/CC for Tropical Cyclones are based on the current Hurricane Condition (HURCON), which are defined as follows (QRC 8-2):

A8.4.1. **HURCON 5** - General Hurricane Season, 1 June to 30 November

A8.4.2. **HURCON 4** - Indicates surface winds in excess of 50 knots could arrive within 96 hours.

A8.4.3. **HURCON 3** - Indicates surface winds in excess of 50 knots could arrive within 72 hours.

A8.4.4. **HURCON 2** - Indicates surface winds in excess of 50 knots could arrive within 48 hours.

A8.4.5. **HURCON 1** - Indicates surface winds in excess of 50 knots could arrive within 24 hours.

A8.4.6. **HURCON 1E** - Indicates surface winds in excess of 50 knots are occurring and other dangerous condition associated with the storm are present. All outside activity is strictly prohibited.

A8.4.7. **HURCON 1R** - Indicates life-threatening storm hazards have passed but damage may persist and only emergency responders and damage assessment personnel are released to move about.

**A8.5.** When a Tropical Cyclone initially moves within 96 hours of Dover AFB the combined element forecaster will inform Wing leadership via e-mail using the Tropical Storm E-mail/Update.

**A8.6.** When a Tropical Storm/Hurricane meets HURCON criteria, the forecaster will:

A8.6.1. Notify 15 OWS (DSN 576-9720) upon notification of entry into HURCON and any changes in HURCON levels.

A8.6.2. Notify the Flight Chief and/or NCOIC (if not aware already)

A8.6.3. Notify the Command Post

A8.6.4. Be prepared to participate in a conference call with TACC and other affected units.

A8.6.5. Coordinate with the 15 OWS, Flight Chief, and NCOIC if time permits before issuance of weather watches, warnings, and/or advisories. If this is not possible, issue then post-coordinate ASAP. Also notify TACC (DSN 576- 4794/4795/4796) of issued Weather Watches/Warnings.

**A8.7.** Forecast hurricane conditions are for Dover AFB official use only and are not for release to the general public.

**A8.8.** Hurricane conditions will be implemented IAW the 436 AW Installation Emergency Management Plan (IEMP) 10-2 and 436 AW Quick Reaction Checklists.

## Attachment 9

## LIMITED DUTY MEMO TEMPLATE

Figure A9.1. Limited Duty Memo Template Part 1.

## MEMORANDUM FOR RECORD

TO: 436 AW/CP, 15 OWS B-flight, 436 OSS/OSA, OSAT, OSAR, OSAA

FROM: 436 OSS/OSW

SUBJECT: Weather Limited Duty Operations (24 Jan to 30 Jan 2015)

1. The Dover Weather Flight has reduced hours of operation. On normal duty days the hours of operation are 0600L to 1800L. In addition, weather is still closed on weekends and holidays. Please see recall criteria in paragraph 2 and standby times and technicians in paragraph 3.

2. 436 OSS/OSW duty technicians may be released only after coordination with the 15 OWS forecaster & senior duty officer, Tower, RAPCON, and Command Post. The weather technician must remain on-duty for any **severe weather** conditions within 10 miles of Dover AFB and until conditions are no longer expected to impact Dover AFB or until the standby technician arrives to relieve them. **Severe weather** conditions are defined as those criteria requiring the weather flight to activate the Severe Weather Action Team (SWAT). **Standby personnel response time is 30 minutes for recall. Standby personnel will be recalled by the 15 OWS and 436 AW/CP in the event any of the following occurs:**

A. **Severe Weather:** Either the 15 OWS or Tower (or both) will notify the 436 Command Post to recall the standby technician when a severe weather watch/warning is issued and/or forecasted to occur within 2 hours for the following:

Tornado
Winds $\geq$ 50 knots
Hail $\geq$ 3/4 inch diameter
Ice Pellets
Freezing precipitation
Any snowfall
Visibility $\leq$ 4SM

B. **Equipment/communication outages or significant degradation** Either the 15 OWS, Tower, or RAPCON notify Command Post to recall the standby technician when any of the following occur:

- 1) If the automated observation sensors are not viewable to ATC or 15 OWS personnel (total communications outage)
- 2) If the observations are not being transmitted to ATC or 15 OWS (FMQ-19/JET outage -**minimum 1 observation per hour**)
- 3) If, in the opinion of ATC and/or 15 OWS personnel, the observations are not representative of conditions at the airfield or in the local area. **These conditions must have a direct/significant impact to operations if not corrected:**

A Weather sensors are working properly if a dollar sign (\$) **is not included** in the remarks at the end of the observation.

### Figure A9.2. Limited Duty Memo Template Part 2.

B Recall standby weather personnel if thunderstorm(s) are occurring (thunder is heard) and the sensor is not reporting thunderstorm(s)

a. Weather sensors may take an average of 10-15 minutes to "catch up" depending on the weather element. (Winds, visibility, and cloud heights are averaged)

C. **Operationally significant events** (Command Post recall):

- ICC recall
- Aircraft Mishap
- Alert Missions

-----**CONTINUE TO PAGE 2**-----

D. **Weather Observation Link** (Viewable from a .mil domain)

- 1) Joint Environmental Toolkit (JET): (CAC [Required](#) for access)

<https://owsjet15.us.af.mil/portal/private/GuestDoverAFB/Sensor>

3. The following weather technicians are on stand-by for the following days during closure:

A. <b>Weekend/Holiday:</b>			
24 Jan		SSgt Jones	Cell: (555) 867-5309
25 Jan		SSgt Bonham	Cell: (555) 555-1234
B. <b>Normal Duty Days:</b>			
26 Jan	(0000L to 0600L):	SSgt Page	Cell: (555) 867-5309
	(1800L to 2400L):	SSgt Bonham	Cell: (555) 555-1234
27 Jan	(0000L to 0600L):	SSgt Page	Cell: (555) 867-5309
	(1800L to 2400L):	SSgt Bonham	Cell: (555) 555-1234
28 Jan	(0000L to 0600L):	SSgt Page	Cell: (555) 867-5309
	(1800L to 2400L):	SSgt Bonham	Cell: (555) 555-1234
29 Jan	(0000L to 0600L):	SSgt Page	Cell: (555) 867-5309
	(1800L to 2400L):	SSgt Bonham	Cell: (555) 555-1234
30 Jan	(0000L to 0600L):	SSgt Page	Cell: (555) 867-5309
	(1800L to 2400L):	SSgt Bonham	Cell: (555) 555-1234

Note: If standby personnel are not able to be reached, **immediately** call Flight Chief or NCOIC.

Key Weather Personnel

Flight Chief  
NCOIC

Home: N/A || Cell: (302) 555-9876  
Home: N/A || Cell: (302) 555-5555

**Figure A9.3. Limited Duty Memo Template Part 3.**Key Agency Phone Numbers

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Command Post	DSN: 445-4201/4202	Comm: (302) 677-4201/4202
15 OWS Dover Forecaster	DSN: 576-9720	Comm: (618) 256-9720
RAPCON	DSN: 445-3268	Comm: (302) 677-3268
Tower	DSN: 445-3020	Comm: (302) 677-3020

///SIGNED///  
ROBERT PLANT, MSgt, USAF  
Flight Chief, Weather