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Weather



**ENVIRONMENTAL SUPPORT FOR AIR
SOVEREIGNTY AND AIR DEFENSE**

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This instruction implements Joint Chiefs of Staff Publication 3-59, *Joint Doctrine, Tactics, Techniques, and Procedures for Meteorology and Oceanography (METOC) Operations*. It describes concepts, responsibilities and minimal environmental support requirements of the North American Aerospace Defense Command (NORAD). This instruction defines general requirements, but leaves the details of support to NORAD regions for implementation. Regions should supplement this instruction as needed to document region specific environmental support requirements and procedures. Send a copy of the published supplement to HQ NORAD/J3OOW, 250 South Peterson Blvd., Ste 116, Peterson AFB CO 80914-3230. It applies to HQ NORAD, NORAD regions and sectors, the Air National Guard (ANG) when published in the ANGIND 2, Air Force Reserve Command (AFRC) when published in the AFRC IND 2 and units under the operational control (OPCON) of the Commander in Chief, NORAD (CINC-NORAD). The standards within this instruction apply to other organizations that support NORAD operations when tasked in agreements initiated by NORAD organizations and agreed to by all participating parties.

SUMMARY OF REVISIONS

Revises format to comply with guidance to change the publication from a regulation to an instruction. Changes 21 OSS/OGSW to 21 OSS/OSW, ROCC/SOCC to RAOC/SAOC, and AFGWC to AFWA throughout the instruction. Combines sections identifying responsibility of operational environmental support. Modifies section on forecast wind errors to better reflect intended meaning. Limits 21 OSS/OSW responsibility for 24-hour point of contact responsibilities. Requires region commanders to identify weather team deployment requirements if required. Adjusts description of Canadian forecast responsibilities. A bar (|) denotes revisions from previous edition.

1. General. NORAD needs specialized atmospheric and space environment support to perform its air sovereignty and air defense missions. Timely, reliable environmental information is essential for command and control, flight safety and force selection. NORAD units arrange for environment services from

supporting weather units. Operations staffs, Staff Weather Officers (SWO) and combat elements supporting NORAD must maintain a current copy of this instruction.

2. Glossary of Terms. See [Attachment 1](#).

3. Concept. The Headquarters (HQ) United States Space Command (USSPACECOM) Weather and Space Environment Branch (J33W) serves as the Senior Meteorology and Oceanography (METOC) Office for NORAD. USSPACECOM/J33W provides policy and guidance for meteorological, oceanographic, and space environment operations in support of NORAD, and ensures standardization of METOC support throughout the command. Most NORAD organizations have no weather personnel directly assigned. Therefore, it is the responsibility of NORAD units or units under the OPCON of CINCNORAD to arrange for environmental support from a host organization. Environmental support may come from US military units (to include ANG and AFRC), Canadian Forces units, National Weather Service or Federal Aviation Administration offices, the Canadian Forces Weather Service (CFWS) or from the Atmospheric Environment Service (AES). This support should use in-place assets and centralized products to the maximum extent possible. Because of the binational nature of NORAD and the mix of centralized products available, guidance can only be general in nature; however, environmental support must meet the minimum requirements set forth in this instruction and must, where applicable, be documented in a host tenant support agreement or other memorandum of agreement or understanding. Direct coordination between weather organizations supporting the same NORAD operation is encouraged.

4. Responsibilities:

4.1. HQ NORAD Director, Combat Operations Staff (J3):

4.1.1. Ensures environmental support is provided to HQ NORAD, the NORAD Command Directors for assessment of launch and warning indications, the NORAD and USSPACECOM Command Center at Cheyenne Mountain Air Station (CMAS), the NORAD Battle Staff when convened and the Mobile Consolidated Command Center (MCCC).

4.1.2. Ensures an environmental support section is included in the interservice support agreement with Air Force Space Command (AFSPC) dealing with host-tenant support. At a minimum, this section should identify the responsibility of AFSPC to provide operational environmental support to CINCNORAD, the NORAD Command Directors, the NORAD and USSPACECOM Command Center and other NORAD work centers at CMAS. This operational environmental support is provided by 21 OSS/OSW.

4.1.3. Identifies the responsibility of USSPACECOM to provide staff environmental support to HQ NORAD and designates HQ NORAD, Combined Weather Operations Branch (J3OOW), for that purpose.

4.1.4. Provides broad guidance to NORAD regions on environmental support required by NORAD operations.

4.1.5. Ensures environmental support annexes are included in Operation Plans (OPLAN), Operation Orders (OPORD), Exercise Plans and Orders, and Concepts of Operations as appropriate.

4.1.6. Ensures new operational requirements and systems are reviewed and appropriate environmental support programmed.

4.2. HQ NORAD Combined Weather Operations Branch (J3OOW):

- 4.2.1. Provides or arranges for all atmospheric and space environmental support required by HQ NORAD.
- 4.2.2. Monitors environmental support provided to the NORAD and USSPACECOM Command Center and other NORAD work centers at CMAS. Ensures procedures are in place to allow continued support in the event of weather equipment or communications outages, or evacuation or destruction of the supporting weather station. Ensures these support requirements and procedures are documented in an appropriate publication.
- 4.2.3. Develops environmental support concepts and provides environmental support annexes to NORAD operations plans.
- 4.2.4. Identifies and arranges for centralized environmental support when these requirements are common to all NORAD-dedicated air defense forces.
- 4.2.5. Informs the Director, NORAD Combat Operations Staff, of the capabilities and limitations of environmental services support.
- 4.2.6. Coordinates environmental support to HQ NORAD-sponsored live-fly exercises.
- 4.2.7. Participates in the development phase of HQ NORAD-sponsored command post exercises (CPX) and Inspector General (IG) evaluations to assist in the formulation of weather or space environment related exercise events.
- 4.2.8. Evaluates weather support provided to NORAD-dedicated air defense forces by augmenting, upon request, the NORAD IG during Operational Readiness Inspections (ORI) and NORAD Operational Evaluations (NOE).
- 4.2.9. Conducts staff assistance visits to NORAD region weather offices as needed.
- 4.2.10. Provides sufficient information on briefing times and content to 21st Space Wing Weather Flight (21 OSS/OSW) to permit them to prepare for all Headquarters Ops/Intel briefings and Crisis Action Team briefings when applicable.

4.3. 21st Space Wing Weather Flight (21 OSS/OSW):

- 4.3.1. Provides or arranges for weather and space environmental support to the NORAD and USSPACECOM Command Center and other NORAD agencies within CMAS.
- 4.3.2. Documents these support procedures in the 21 SW OPLAN 15-125.
- 4.3.3. Provides operational weather and space environmental briefing support to both CINCNORAD and HQ NORAD/J3. Provides up to a maximum of two briefers to support all remote briefing requirements, including USSPACECOM and AFSPC during exercises and contingencies, when manning permits.
- 4.3.4. Serves as the HQ NORAD/J3OOW 24-hour point of contact when directed by operations plans and exercise directives.

4.4. HQ NORAD Deputy Director for Exercises (J3Z):

- 4.4.1. Provides HQ NORAD/J3OOW with weather support tasking information approximately 1 month before each HQ NORAD-sponsored live-fly exercise. This information includes participating regions, target and interceptor flying periods by base (dates and times), target altitudes, geographical boundaries for the exercise, and weather delay information.

4.4.2. Coordinates weather and space environment related exercise events with HQ NORAD/J3OOW during the development of CPX scenarios. Provides HQ NORAD/J3OOW a copy of the Master Scenario Events List (MSEL) prior to all HQ NORAD-disseminating sponsored CPXs.

4.5. HQ NORAD Inspector General (IG):

4.5.1. Provides HQ NORAD/J3OOW with weather support tasking information approximately 1 month before each HQ NORAD inspection/evaluation.

4.5.2. Coordinates weather and space environment related exercise inputs for inspections/evaluations with HQ NORAD/J3OOW, as required.

4.6. Region Commanders:

4.6.1. Ensure both operational and staff environmental support is provided to their respective regions.

4.6.2. Ensure an environmental support section is included in any host-tenant support agreement or memorandum of understanding or agreement with the host base organization. This section will include the designation of a region staff weather officer (SWO) to provide staff environmental support to the Regional Air Operations Center (RAOC) and a regional weather station to provide operational environmental support to the RAOC as well as support to NORAD-dedicated flying operations within the region.

4.6.3. Supplement this instruction as needed to document region specific environmental support requirements and procedures.

4.6.4. Ensure environmental support annexes are included in region OPLANs, OPORDs, Exercise Plans and Orders, and Concepts of Operations as appropriate.

4.6.5. Identify to HQ NORAD Chief, Logistics Plans and Readiness (J4X) requirements for deployed weather teams by Unit Type Code(s) for beddown locations with insufficient weather support.

4.7. Region Staff Weather Officers (SWO):

4.7.1. Provide or arrange for staff environmental services to the Region Commander and RAOC staff.

4.7.2. Develop region-specific environmental support procedures for NORAD-dedicated forces assigned to or operating within their respective regions.

4.7.3. Develop supplements to this instruction as needed to detail environmental support procedures for supporting NORAD region operations and NORAD-dedicated forces assigned to or operating in their regions. Include HQ NORAD/J3OOW on the distribution of all such supplements or region weather publications.

4.7.4. Provide environmental support annexes for region operations and exercise plans and orders in support of NORAD. Ensure HQ NORAD/J3OOW is included on distribution of all plans and orders which contain environmental support annexes.

4.7.5. Identify and arrange for centralized environmental support to meet unique region requirements for support products.

4.7.6. Inform the Region Commander of capabilities and limitations of environmental services support. Crossfeed information on environmental support requirements and significant issues (problems, changes, improvements) concerning environmental support to HQ NORAD/J3OOW.

4.7.7. Ensure HQ NORAD/J3OOW is an addressee on any up-channel operational report which includes significant impacts to NORAD operations caused by weather, weather support, or the space environment.

4.7.8. Participate in the development phase of CPXs to assist in the formulation of weather or space environment related exercise events. Ensure exercise weather events are reasonable and that a minimum number of events are used. Coordinate on environmentally related MSEL inputs forwarded to HQ NORAD.

4.7.9. Conduct staff assistance visits to subordinate sector SWOs and weather stations as needed.

4.7.10. Conduct a job performance assessment annually using the guide at [Attachment 2](#).

4.8. Region Exercise Directorates:

4.8.1. Inform region SWOs of the initiation and status of exercise planning cycles.

4.8.2. Coordinate any MSEL inputs which involve weather with the region SWO.

4.9. Region Weather Stations:

4.9.1. Provide operational environmental support to the respective RAOC.

4.9.2. Conduct a continual meteorological watch across their area of responsibility and advise the CANR RAOC Senior Director (SD) or CONR/ANR SAOC Mission Crew Commander (MCC) of weather conditions that could affect NORAD operations.

4.9.3. Ensure forecasts for alert bases and alternates are provided to forces on alert or flying NORAD missions. Ensure forecasts for region headquarters when no local forecast is available or when the local forecast does not meet the standards in paragraph [5.3](#), or additional standards identified in region supplements to this instruction. This responsibility may be delegated to sector weather stations. In Canada, the responsibility for terminal aerodrome forecasts (TAF) for alert bases rests with the Canadian Forces Weather Service (CFWS) or Atmospheric Environment Service (AES) Forecast Centres.

5. General NORAD Environmental Support Requirements:

5.1. General. NORAD requires terminal weather information at active alert bases and alternates to support aircraft launch and recovery operations, to declare mandatory scramble order (MSO) status, for flight safety and for resource protection. Forecasts and observations must be available 24-hours a day. Alert forces and command and control centers need the latest terminal weather observation and the lowest forecast conditions for the next 2 hours. Commanders receive weather warnings and advisories to take action to protect their resources and to support decisions on force selection and employment. Information on winds aloft and weather conditions across the region is essential to determine flight times, position intercept and support aircraft, identify targets and select weapons and tactics. Accurate characterization of the ionosphere allows optimization of the Relocatable Over-the-Horizon-Backscatter (ROTH-B) radar system in support of NORAD. Counterdrug missions require knowledge of general aviation weather and such factors as sunrise and sunset, moonrise and moonset and moon illumination to maximize effectiveness against airborne smuggling operations. Aerostat

flight operations require upper level winds and hazards in addition to general aviation weather for locations where aerostats are operating.

5.2. Terminal Weather Observations. Flying operations require a current observation for both takeoff and recovery. The following stipulates requirements for terminal weather observations:

5.2.1. Observations must specify sky condition, visibility, obstructions to visibility, wind direction and speed and altimeter setting.

5.2.2. Take special observations when the ceiling or visibility decreases to less than 300 feet/1 mile (or airfield minimums if higher) when conditions had been higher; also if ceiling or visibility increases from below 300 feet/1 mile (or airfield minimums if higher) to equal or exceed that condition. Regions specify any additional special criteria in region publications.

5.2.3. Check weather conditions at 20-minute intervals or more frequently to determine the need for a special observation when the ceiling is below 1,500 feet and/or the visibility is at or below 3 miles.

5.2.4. Transmit observations locally for the benefit of air traffic control of aircraft during landing and longline for input into the RAOC or Sector Air Operations Center (SAOC) database for command and control purposes. Generally, taking and disseminating weather observations is lower in priority only to performing Emergency War Order (EWO) duties and issuing severe weather warnings.

5.3. Terminal Weather Forecasts. Local forecasts are used to the greatest extent possible for operations and planning purposes. The following stipulates requirements for terminal weather forecasts.

5.3.1. Forecasts must specify sky condition, visibility, obstructions to visibility and wind direction and speed.

5.3.2. Forecast specification criteria must include a ceiling and visibility criterion of 300 ft/1 mile (or airfield minimums, if higher). Regions specify any additional criteria they deem operationally significant in region publications.

5.3.3. Amend forecasts (and transmit) when the original forecast is no longer representative of expected or actual conditions. An amendment is required when an unforecast change is expected to occur, or occurs, and is expected to last at least 30 minutes and is not correctly forecast by the next whole hour. Likewise, if a forecast condition does not occur by the specified hour and is not expected to occur within the next 30 minutes, an amendment is required. When possible, the forecast should be amended before it becomes unrepresentative of actual conditions. The following are minimum amendment criteria (Regions may specify additional criteria for their areas of responsibility in regional publications. These additional criteria should be consistent with forecast specification criteria):

5.3.3.1. Out-of-category ceiling/visibility. Forecasts are considered out of category whenever the forecast condition is above 300/1 and the observed condition decreases to less than 300/1. Conversely, if the forecast condition is for less than 300/1 and the observed condition increases to equal or exceed 300/1. The category is determined by the lower of the ceiling or visibility elements. If airfield minimums are higher than 300 feet/1 mile, use airfield minimums as the out-of-category criterion.

5.3.3.2. An error in forecast winds when: (1) the wind speed is off by 10 knots or more

(including gusts), or (2) the wind direction is off by 30 degrees or more when the wind speed (including gusts) is, or is forecast to be, in excess of 15 knots.

5.3.3.3. The forecast is inconsistent with current weather warnings.

5.4. Weather Warnings and Weather Advisories. Warnings and advisories should be issued when the respective criteria are met. Regions should include weather warning and advisory criteria and procedures in their region publications, as applicable. This may be delegated to the sectors.

5.5. Flight Meteorological Watch (Met Watch). All active air intercept missions (active scrambles) launched under control of a RAOC or SAOC require a met watch. Notification procedures must be in place so the supporting weather unit can initiate a met watch when an active launch occurs. Met watches of active air missions warrant Emergency War Order (EWO) priority because of the potential for hostile engagement.

5.6. Area Met Watch. The supporting weather unit must notify the RAOC or SAOC SD or MCC of any weather conditions that could affect NORAD operations within the RAOC or SAOC area of responsibility. Such conditions include but are not limited to thunderstorms, restrictions to visibility, strong surface winds, icing, turbulence and cloud cover.

6. Specialized Environmental Support:

6.1. Exercises:

6.1.1. General. Live-fly exercises require well coordinated weather support to ensure flight safety. The primary HQ NORAD sponsored live-fly field training exercise (FTX) is AMALGAM WARRIOR. Weather support for CPXs must also be well coordinated to ensure consistent weather briefings by all weather support organizations. The primary HQ NORAD-sponsored CPX is VIGILANT OVERVIEW.

6.1.2. AMALGAM WARRIOR. HQ NORAD/J3OOW sends a letter of instruction (LOI) to all regions participating in a HQ NORAD-sponsored FTX about 3 weeks before STARTEX. The LOI provides the region SWOs with information concerning the exercise and tasks them to provide or arrange for specific forecast support. Contents include exercise dates, terminal forecast locations, specific instructions on exercise forecast bulletins (if used) or other special weather support required, coordinating and reporting instructions, exercise participants, and points of contact.

6.1.3. VIGILANT OVERVIEW. HQ NORAD/J3OOW informs region SWOs of exercise weather inputs prior to HQ NORAD sponsored CPXs so that the events may be incorporated into weather briefings.

6.1.4. Staff weather officers at all echelons should actively participate in the post-exercise corrective actions process (ECAB). Region SWOs provide HQ NORAD/J3OOW a courtesy copy of any ECAB item involving weather or weather support submitted by their region.

6.2. E-3 Operations:

6.2.1. E-3 aircraft under operational control (OPCON) of NORAD have specific weather requirements for both flight and mission crews.

6.2.1.1. Flight crew weather support includes aircrew briefings, computer flight plan (CFP) support (if available) and mission-unique information.

6.2.1.2. Mission crews require weather information throughout the E-3's area of operation (AOR). Requirements include winds from the surface to 60,000 feet; current and forecast weather for bases of operation, alternate bases, and fighter bases that support the E-3 in their AOR; orbit, control, and air refueling area weather; HF Propagation Forecasts; and sea state information, as applicable.

6.2.2. General Concepts of Support. The following concept of support applies to E-3 aircraft under NORAD Combatant Command (COCOM) or NORAD OPCON.

6.2.2.1. The launch base weather station (BWS) provides all required pre-launch weather support in coordination with the E-3 crew and the 72d Operational Support Squadron/OSW (72 OSS/OSW), Tinker AFB OK. If no BWS exists at a launch base, the region or sector weather station (RSWS) supporting that particular region or sector provides or arranges for the support. The RSWS of the region or sector receiving E-3 support has overall responsibility for the support.

6.2.2.2. Airborne support to orbiting E-3s is provided by the RSWS serving the region or sector in which the aircraft is operating.

6.2.2.3. The 72 OSS/OSW submits requests to the 55 SWXS/DO [formerly Air Force Space Forecast Center (AFSFC)] at Schriever AFB CO for HF Propagation bulletins for all E-3 missions. For E-3 missions originating at locations other than Tinker, the 72 OSS/OSW coordinates with the launch base weather station or appropriate RSWS on which HF Propagation bulletins to request.

6.2.3. E-3 Weather Briefings. Because of the number of agencies involved, it is important that a single, coordinated forecast is provided for E-3 operations. To achieve this, use of centralized products and services to the maximum extent possible is essential.

6.2.3.1. E-3 crews normally order their own CFPs. The launch BWS should perform quality control checks on the CFPs if possible and provide assistance as needed.

6.2.3.2. The launch BWS provides the crews a weather package including DD Form 175-1, **Flight Weather Briefing or Equivalent Information**, a 300mb wind chart, and the HF Propagation Forecast bulletin.

6.2.4. RAOCs and AWACS Digital Information Link (RADIL) Support. RADIL systems use High Frequency (HF) radio transmissions which can be affected by solar activity. These systems may be supported using locally generated products which have sun spot number as an input or through use of 55 SWXS products. Specifically, 55 SWXS needs the latitude, longitude and altitude of both the transmitting and receiving antennas in order to provide the maximum usable frequency (MUF) and the frequency of optimum transmission (FOT) via a graphical product available over the Automated Weather Network (AWN) or Automated Digital Network (AUTODIN). Support requests to 55 SWXS should specify several points for orbiting E-3s.

7. Centrally Produced Products. Air Force Weather Agency (AFWA) and the 55 SWXS provide a number of environmental products to support NORAD operations. Special products, procedures and communication systems unique to each region should be included in region publications.

7.1. Air Base Weather. RAOC and SAOC aircraft controllers require immediate access to current observed and forecast weather for selected launch and recovery bases. AFWA transmits selected

weather information directly to RAOC and SAOC computers for display on the consoles. Displayed information includes the current observation, the lowest predominant condition forecast for the next 2 hours, and forecast intermittent weather conditions, if any, for the same period. These weather tabular displays use the following weather categories:

7.1.1. "V": Ceiling and visibility equal to or greater than 1,000 feet and 3 statute miles.

7.1.2. "I": Ceiling or visibility less than 1,000 feet or 3 statute miles and equal to or greater than 300 feet and 1 statute mile.

7.1.3. "X": Ceiling or visibility less than 300 feet or 1 statute mile.

7.2. Winds Aloft. RAOC and SAOC computer systems also ingest wind forecasts for points within each region in 5,000 foot increments from 5,000 to 60,000 feet directly from AFWA. These forecasts are automatically entered into RAOC or SAOC computers and are used to calculate intercept geometry.

7.3. Other Products. Descriptions of AFWA products are contained in the AFGWCPAM 105-1, *Volumes II and III, AFGWC Facsimile Products and Teletype Products*, (Meteorological) series pamphlets. Information on 55 SWXS products are contained in AFSFCPAM 105-3, *Guide to Space Environmental Effects on DoD Operations*, and AFSFCPAM 105-4, *Space Environmental Products*. Region SWOs can establish requirements with AFWA and 55 SWXS for additional environmental support. The Canadian Region SWO normally sends routine support assistance requests to United States agencies through HQ NORAD/J3OOW; however, time sensitive requests may be sent directly to the central forecast facility with an information copy to HQ NORAD/J3OOW.

G. KEITH McDONALD, MGEN, CF
Director of Operations

Attachment 1**GLOSSARY OF TERMS*****Terms***

55th Space Weather Squadron (55 SWXS)—An environmental center at Schriever AFB CO with the ability to collect and process space environmental data, and produce and send out space environmental information needed to support DoD agencies and military operations of the USAF, the USA, and other units as directed by the USAF Chief of Staff.

Air Force Weather Agency (AFWA)—A weather central at Offutt AFB NE, with the ability to collect and process meteorological data, and produce and send out meteorological information needed to support DoD agencies and military operations of the USAF, the USA and other units as directed by the USAF Chief of Staff.

Alaskan Meteorological Data System (ALMEDS)—The longline teletype circuit which provides weather observations and forecasts military units within Alaska.

Anomalous Propagation (AP)—The abnormal refraction of a radar beam caused by a nonstandard vertical distribution of temperature and moisture in the atmosphere.

Area Met Watch—The monitoring of weather conditions within a specific area.

Automated Weather Distribution System (AWDS)—A computerized system for the reception, processing and dissemination of environmental information.

CONUS Meteorological Data System (COMEDS)—The CONUS-based military longline communications system which provides observations and forecasts to military weather units.

D-Value—The difference between the observed or forecast height of a pressure surface and the height of the same surface in the standard atmosphere.

Flight Met Watch—The monitoring of weather conditions for a specific aircraft flight.

Met Watch—The continuous monitoring of current and forecast meteorological elements to keep operational authorities advised of those elements of concern to them.

NORAD-Dedicated Weather Circuit (NDWC)—The longline teletype circuit designed for the transmission of meteorological information from AFWA to NORAD RAOCs and SAOCs.

Region or Sector Staff Weather Officer (SWO)—Functions as the liaison between the NORAD region or sectors and the RSWS.

Region or Sector Weather Station (RSWS)—A weather station which supplies weather support to a particular RAOC or SAOC and the units under its operational control. A region weather station (RWS) supports a RAOC and a sector weather station (SWS) supports a SAOC. RSWS refers to either.

Terminal Aerodrome Forecast (TAF)—Forecast of expected weather conditions and significant changes at an air terminal. The normal valid period and frequency of issue are as follows: (1) Terminal airdrome forecasts are valid for a 24-hour period and are issued every 6 hours for locations with a military weather unit. TAFs issued in support of a limited duty station are also valid for a 24-hour period and are issued according to local requirements. (2) Weather bulletins (XTUS heading) contain short-range (12 hour) forecasts issued by the RSWS every 8 hours in support of air defense alert units where no military

terminal forecast is available. (3) Canadian forecasts are valid for a 12- or 24-hour period and the frequency of issue is dependent upon the issuing agency supporting alert units located within the Canadian NORAD Region.

Terminal Met Watch—The monitoring of weather conditions at a specific location.

Weather Advisory—A special notice given to decision-makers when an established weather condition is occurring or is expected to occur and could have an impact on operations.

Weather Warning—Notification of a forecast weather phenomenon needing specific or immediate action by the receiver to prevent or minimize loss of life, injury or destruction of government property.

Attachment 2**NORAD WEATHER SUPPORT SELF-ASSESSMENT GUIDE**

- A2.1.** Has a region staff weather officer (SWO) been appointed? [para 4.6.2.]
- A2.2.** Do the region SWO and the region or sector weather station (RSWS) have a current copy of NI15-1? [para 1.]
- A2.3.** Has the region supplemented this instruction or published a region weather publication? Does it adequately cover weather support to region or sector operations? Is J3OOW included in distribution? [para 4.7.3.]
- A2.4.** Are all required environmental support annexes current? Is J3OOW included in distribution? [para 4.7.4.]
- A2.5.** Does the region SWO complete a job performance assessment of region weather support annually using this guide? [para 4.7.10.]
- A2.6.** Are adequate weather observations available at all airfields within the region which are routinely used by NORAD-dedicated aircraft? [para 5.2.]
- A2.7.** Are special observations taken for the 300 ft/1 mile (or airfield minimums, if higher) criteria at NORAD operating bases within the region? [para 5.2.2.]
- A2.8.** Is the RSWS providing forecast support for required airfields? [para 5.3.]
- A2.9.** Is the 300 ft/1 mile (or airfield minimums, if higher) ceiling/visibility forecast specification criteria included in RSWS operating procedures? [para 5.3.2.]
- A2.10.** If needed, are additional forecast specification criteria documented in region publications and used to meet customer requirements? [para 5.3.2.]
- A2.11.** Are required amendment criteria documented in RSWS operating procedures? [para 5.3.3.]
- A2.12.** Are amendments transmitted in a timely fashion when required? [para 5.3.3.]
- A2.13.** If additional amendment criteria have been documented, are they consistent with specification criteria? [para 5.3.3.]
- A2.14.** Are weather warning criteria documented in region publications for all NORAD operating sites for which the region has responsibility? [para 5.4.]
- A2.15.** Are all active air intercept missions within the region or sector met watched? [para 5.5.]

A2.16. Is met watch of active air intercept missions given the proper priority in RSWS duty priority lists? [para 5.5.]

A2.17. Is the appropriate RAOC or SAOC senior director promptly notified when hazardous weather develops? [para 5.6.]

A2.18. Does the region SWO coordinate on region inputs during the exercise development process? [para 4.7.8.]

A2.19. Does the region SWO participate in the post-exercise corrective actions board (ECAB) process? [para 6.1.4.]

A2.20. Does the RSWS request HF Propagation Forecast Bulletins from 55 SWXS for E-3 missions as required? [para 6.2.2.3.]

A2.21. Does the RSWS provide weather support to airborne E-3's on NORAD missions operating within their area of responsibility? [para 6.2.2.2.]

A2.22. Are E-3 crews provided complete weather briefing packages? [para 6.2.3.2.]