NATIONAL WEATHER SERVICE INSTRUCTION 10-809

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Operations & Services
Aviation Weather Services, NWSPD 10-8

SUPPORT TO FEDERAL AVIATION ADMINISTRATION PILOT WEATHER BRIEFING FACILITIES

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SUMMARY OF REVISIONS: Supersedes NWSI 10-809, Support to Federal Aviation Administration Pilot Weather Briefing (PWB) Facilities, dated September 5, 2002. The following changes are highlighted: In section 3, clarified supporting roles and requirements of NWS offices, added references to FAA Order 7110.10, and added subsection (5) authority to allow random phone calls and request tapes from FAA facilities of recorded pilot weather briefings. Revised section 4, moving some subsections to section 5 (at request of FAA). Moved section 4.3.1 to 5.2.1, which addresses failure and places responsibility for taking action on the FAA. Expanded section 5.5, simplifying update of WS Form 10-809-4 on semi-annual visits for NWS Aviation Focal Points (AFP). Moved former section 5, Proficiency Checks and Proficiency Exams for Pilot Weather Briefers to section 6, and assigned authority to administer proficiency checks and exams to the FAA Academy staff. Moved section 7, Revalidation of Certificates of Authority (CA) to section 8. FAA Academy Instructor PWB CA becomes section 9, and adds a time period for proficiency checks. Changes made to the Performance Standards in Appendix A ensure agreement with FAA Order 7110.10. Reapportioned Score Value Assignment in Appendix C. Deleted columns for Weather Forecast Offices in Appendix D. Added WS Form D-5 at Appendix E.

SIGNED 9/26/03
Gregory A. Mandt Date
Director, Office of Climate, Water, and Weather Services

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1. Purpose. This instruction details procedures and responsibilities for National Weather Service (NWS) Weather Forecast Office (WFO) Meteorologists in Charge (MIC), NWS staff at the Federal Aviation Administration (FAA) Academy, WFO Aviation Focal Points (AFP), and meteorologists at the Aviation Weather Center (AWC), Alaska Aviation Weather Unit (AAWU), Center Weather Service Units (CWSU), and the Aviation Services Branch (ASB) at NWS Headquarters. It also describes the NWS certification process for Pilot Weather Briefing (PWB), which parallels guidelines and procedures outlined in FAA Order 7110.10, as applicable to Flight Services.

2. General. The NWS does not conduct official Pilot Weather Briefings (PWB). By agreement with the FAA, all NWS offices have oversight responsibility for PWB services at FAA facilities within their AOR because they utilize aviation products issued by NWS meteorologists.

3. Tasks and Procedures. NOTE: Units identified in parentheses are responsible for that task.

a. ASB, AWC, AAWU, CWSU, and WFO responsibilities

(1) Provide aviation training to current and future aviation forecasters. This includes the Aviation Operations Courses (AOC) and local training. (AWC, AAWU, WFO, CWSU)

(2) Conduct semi-annual visits to Automated Flight Service Stations (AFSS) in AOR. Visit responsibility should be shared by neighboring WFOs which do not have FSSs in their AORs. NWS AFPs complete Appendix D (WS Form 10-809-4, Personnel Action Item Report) and Appendix F (Meteorological Interpretation Checklist). AFPs should work closely with FAA Support/Training Specialists to update 10-809-4's, which ensures an accurate list of certified personnel are on the form.

Semi-annual visits are not evaluation visits. NWS staff should use this opportunity for familiarization and feedback on questions concerning aviation product interpretation. The visits should develop partnerships with FAA facility managers, allowing improved service to customers. (WFO)

(3) As resources permit, conduct visits to Air Route Traffic Control Centers (ARTCC) within the AOR to learn about the National Airspace System (NAS). Forecasters should conference with CWSU meteorologists to improve coordination of products and services. (AWC, AAWU, WFO)

(4) Participate in En-route Flight Advisory Service (EFAS) courses at the FAA Academy (FAA-A) as regional and/or local office resources permit. (ASB, AWC, AAWU, WFO, CWSU)

(5) Maintain working knowledge of NWS operations at the FAA-A. This aids giving professional advice to FAA facilities (AFSS, Air Traffic Control Towers (ATCT), ARTCC) for obtaining NWS-issued certificates. (AWC, AAWU, WFO, CWSU)

(6) Keep customers informed about processes and products being developed to improve forecasts and services. (AWC, AAWU, WFO)

Documentation is required during the visits to the AFSS/FSS facilities as stated above. For other FAA facility visits (ARTCC, ATCT, etc.), or to document attendance at EFAS courses at the FAA-A, a trip report should be submitted. All written documentation should be completed within two (2) weeks of the visit, with the NWS office keeping one copy while sending copies to the Regional Aviation Meteorologist (RAM) and the FAA-A MIC. Use electronic mail to forward the reports.

b. FAA-A responsibilities (detailed in the FAA-NWS Joint Memorandum of Agreement)

(1) Conduct resident training for FAA students enrolled in Air Traffic Basics, Initial Qualification, En-route Flight Advisory Service, and Tower Visibility classes.

(2) Develop and maintain up-to-date Computer Based Instruction (CBI) modules and provide guidance and required weather training for air traffic controllers from FSS, ATCT, and ARTCC facilities.

(3) Administer and grade written (Weather Analysis, Satellite, and Radar) and oral examinations for Pilot Weather Briefer candidates. For oral certification examinations, conduct detailed debriefing sessions with the candidate and appropriate facility management and training officials.

(4) Issue Certificates of Authority (CA) to certified Pilot Weather Briefers and, with the help of WFO AFPs, maintain a current PWB Certificate database.

(5) Administer proficiency checks and exams to certified Pilot Weather Briefers. Proficiency checks will be conducted at random as resources allow, and occasional requests for PWB tapes from FAA facilities will be made in order to check proficiency.

(6) Continuously modify lesson plans to improve teaching methods and training materials for academy students.

(7) Assist WFOs with aviation training materials as resources permit. This includes providing slide presentations on aviation hazards or related materials for use by AFPs at local pilot training workshops, aviation meetings, and to assist FAA training specialists with refresher training.

(8) Visit AFSSs, CWSUs, WFOs Honolulu and Guam (Meteorological Watch Offices for the International Civil Aviation organization), and the AWC to maintain knowledge and currency of field operations and technologies used to support aviation customers. Information obtained on these visits can be used to improve instruction at the FAA-A. The FAA-A will notify WFO MIC's and each region's Regional Aviation Meteorologist of planned visits.

(9) Conference with FAA Flight Services managers at the FAA-A on proposed changes and updates to the NWS aviation program and evaluate impacts which may affect the FAA.

The FAA-A MIC will assign staff (evaluation officers or instructors) to conduct visits to FAA facilities in the U. S. as resources allow. Documents completed for each visit include Facility Visitation Site Evaluation Report - Form 10-809-2 (Appendix B), Personnel and Action Item Report - Form 10-809-4 (Appendix D), and if time permits, Oral PWB Evaluation Sheet - Form 10-809-3 (Appendix C). Complete the forms within two (2) weeks after returning and the FAA-A MIC will send copies to the RAM and the FAA facility. Visit reports received will be reviewed by the FAA-A MIC and action items noted will be addressed. Some actions may require information being forwarded to the ASB, AWC, AAWU, RH, CWSU, and/or WFO. Electronic versions of these reports and actions required will be sent electronically to appropriate offices.

4. NWS Training. NWS meteorologists will be aware of how weather phenomena affect aircraft performance and pilot decision making. Participation in annual aviation weather training seminars and workshops, facilitated through close working relationships with the local FAA agencies, can aid in this training. At a minimum, forecasters should receive training on aviation flight operations; aviation community requirements; and specific techniques, procedures and products used by certified PWB specialists. This can be accomplished through NWS developed AOCs, and training programs developed in collaboration with the university community, FAA, and other aviation organizations.

5. FAA Pilot Weather Briefing Training. Performing official PWB is a federal government responsibility. FAA controllers receive initial PWB training at the FAA-A, with additional training provided by the On-the-Job Training Instructor at the AFSS.

5.1 FAA Academy Pilot Weather Briefing Resident Course. Initial training for FAA PWB candidates is conducted by NWS and FAA staff at the FAA-A. The FAA-A staff develop, organize, and conduct training of aviation weather for the resident course. PWB practice is provided in a Model 1 full capacity environment using a variety of canned weather data. In the future, this system will be replaced by the FAA's Operational and Supportability Implementation System (OASIS), currently being deployed at the AFSS's.

5.2 Certification of FAA Pilot Weather Briefers. All FAA PWB candidates are certified by the FAA-A MIC to perform official PWBs without supervision. Certification requires successful completion of training, written examinations, and an oral examination. Although the NWS coordinates with the FAA, and follows FAA Order 7110.10 closely, a few differences may exist between the FAA Order and this directive. In cases where discrepancies exist, this directive is the governing document for NWS Certification of all Pilot Weather Briefers.

5.2.1 Written Examinations. FAA-A students are required to take written weather analysis, satellite, and radar examinations administered by the NWS Office at the FAA-A. Upon completion, a "Pilot Weather Briefing - Qualification Report" (Appendix E) is completed by the FAA-A. A copy is mailed to each student's assigned facility, noting scores for each examination administered. If a student fails the examination, a request to retake the test while still at the FAA-A must be made formally to the FAA-A Flight Service Section Supervisor. They may also retake the examinations at a field facility. If this is the case, the exams will be administered by the facility Air Traffic Manager (ATM) or designee. Tests and answer sheets will be obtained

from the FAA-A MIC and returned for grading and further processing. If the student fails to pass the examination, the FAA-A MIC will notify the facility management. It is the FAA's responsibility to take appropriate action.

5.2.2 Oral Examinations. The facility ATM will ensure PWB candidates are prepared to take the oral exam once they have passed all written examinations. When the candidate is sufficiently prepared, they take the oral examinations by performing one low level and one high level PWB for the FAA-A MIC, or designated staff. These tests must be completed within two (2) years of taking the written examinations. The test is recorded by the NWS examiner and reviewed by the FAA-A MIC for quality control and improvement of the PWB evaluation program.

The oral examination is only for government employees at FAA facilities who have completed the Pre-Flight position training. It can be administered by telephone, but on occasion may be given at the duty station. While the NWS allows an FAA supervisor or training specialist to listen during this exam, no help will be provided to the student. Use Appendix C to determine the student's oral examination grade. Once the document has scoring and briefing note entries made, it is protected under the Privacy Act and will not be released.

The oral examination must ensure the student can gather all pertinent weather data and present it to the pilot in a logical, concise, and easily understood manner. Briefings provided during the test should clearly state the current and forecast weather conditions and pertinent advisories. It must, at a minimum, cover all available weather information, either international or domestic, which meets the pilot's specified needs. The examination will also assess the student's basic understanding of radar and satellite information as a PWB tool.

The PWB route of flight should be at least 200 nautical miles long, and will be evaluated in three general areas: background information, briefing content, and quality factors. The pass-fail decision is heavily weighted on ability to adequately brief on adverse weather conditions. In order to ensure objective quality control, validation, and standardization of oral tests, briefings should contain adverse weather conditions along the route of flight, either at low- or high-level (for oral examination purposes, 24,000 feet above Mean Sea Level (MSL) separates low-level from high-level). This ensures a uniform level of difficulty and makes the exam score a reliable indicator of individual performance. Adverse weather conditions include low ceilings and visibilities, thunderstorms, mountain obscurations, turbulence, freezing precipitation, icing, and strong low-level winds and/or shear. Failure to alert the pilot of an adverse condition may hinder the pilot's safety of flight. Therefore, if the student misses one adverse condition under the briefing content block, or fails to provide the Visual Flight Rules Not Recommended (VNR) statement when appropriate, the entire 30 points allotted will be deducted. Detailed evaluation guidelines and standards of performance are contained in Appendix A.

Minimum passing grade is 70 percent. The FAA-A MIC or designee will provide oral comments during the debrief session. Facility management, training specialists, and the student are strongly encouraged to participate in the debrief session.

If the trainee fails the PWB oral examination, the NWS evaluator should further discuss problem areas with the student and facility managers before scheduling a retake. Facility training should

be conducted for a minimum of one (1) week before a retake. Information on failures will be kept on file at the FAA-A until the student passes. Once a student passes, forms with failure scores will be destroyed. A second failure will require the FAA-A MIC or designee to discuss training options with facility managers, but it is the FAA's responsibility to take appropriate action.

5.3 International Pilot Weather Briefing Evaluations. AFSS locations bordering Mexico and Canada also perform international PWBs. All domestic evaluation procedures are valid for flights into Mexico and Canada. After prior coordination with the AFSS ATM or training/support specialists, evaluators may request briefings into Mexico or Canada as part of the evaluation process.

For other sites designated as International AFSS's, NWS evaluators will coordinate briefings into commonly provided international locations. Use Appendix C to determine the student's oral evaluation grade. Since this responsibility requires only supplemental training, additional certification is not required. WS Form D-5 (Appendix E) will be used to document results of supplemental training and oral evaluation or proficiency. Successful completion of the oral evaluation will be noted in the specialist's training record and in the NWS PWB Certificate database.

5.4 Issuance of Certificate of Authority (CA). Once the candidate successfully passes the oral exam, the FAA-A MIC will within ten (10) working days issue a CA for PWB and forward it to the facility ATM. The date the candidate passes the oral exam will appear on the CA, and is the date the candidate is officially authorized to work the PWB position without supervision.

The facility ATM may provide a copy of the CA to the briefer, if requested. CA's will be forwarded to the new facility when the briefer is reassigned. The gaining facility ATM should notify the FAA-A MIC upon receipt of the CA.

5.5 Maintenance of Files. The NWS Office at the FAA-A will maintain a current list of pilot weather briefer CA numbers, issuance dates, etc., in a computerized database format. The original CA will be displayed at the facility or kept together in a facility binder. This will facilitate updating the WS Form 10-809-4, Personnel and Action Item Report whenever NWS personnel visit the AFSS. During each visit, a new WS Form 10-809-4 will be completed, with entries showing the entire PWB staff, any resignations, transfers, new hires, and developmental employees with estimated date for completion of training in remarks.

6. Proficiency Checks and Proficiency Examinations for Pilot Weather Briefers. Only NWS FAA-A examiners are authorized to perform proficiency checks and examinations which may result in loss of pilot weather briefer authority.

6.1 Proficiency Checks. Proficiency checks are evaluations of pilot weather briefers and can be equated with routine quality control checks. The Oral PWB evaluation sheet, Form 10-809-3 will be used to determine the performance score. The FAA-A will complete a WS Form D-5 and send it electronically to the facility for their employee training records. Results are also entered into the FAA-A PWB CA database.

Proficiency checks will be conducted for the following:

a. When a pilot weather briefer is reassigned to a new facility more than 600 miles from the old facility, or when the surrounding terrain or prevailing weather regimes of the old and new facilities are significantly different.

b. When the pilot weather briefer, for any reason, has not provided a briefing for at least six (6) months (e.g. temporary assignment, extended illness, etc.)

c. To revalidate the PWB certificate of FAA-A instructors who return to a field assignment.

The proficiency check must be performed within six (6) months of arrival at the new facility. If the proficiency check identifies a significant deficiency which results in a failing score, the evaluator will discuss the problem area(s) with the facility management, training/ support specialist, and PWB specialist, and immediately schedule a formal proficiency examination within two (2) weeks of the proficiency check date. The PWB specialist may continue to perform official PWB duties. However, it is highly recommended this be done under supervision and additional training be provided during in the noted deficient areas.

6.2 Proficiency Examinations. Proficiency examinations are identical to oral certification examinations. NWS and FAA supervisory officials may request proficiency examinations for pilot weather briefers at any time for any reason. The FAA-A MIC will respond to these requests in a timely manner. The Oral PWB evaluation sheet (Appendix C) will be used to determine the briefer's performance score. The FAA-A will complete WS Form D-5 and send it electronically to the facility for their employee training records. The results will also be entered into the FAA-A PWB CA database.

6.2.1 Suspension of Certificate of Authority. The PWB CA will be suspended if the briefing performance during a proficiency exam is substandard and a WS Form D-5 indicating suspension will be electronically sent to the facility. When a CA is suspended, a briefer will not provide PWB without immediate supervision. Another proficiency exam will be scheduled as soon as possible after appropriate training is accomplished. FAA facility supervisors may request training assistance from the nearest WFO, if necessary, or obtain training recommendations and available resource materials from the FAA-A MIC.

6.2.2 Cancellation of Certificate of Authority. The PWB CA will be cancelled if the briefer fails to demonstrate satisfactory performance during the second proficiency exam, and a WS Form D-5 indicating cancellation will be electronically sent to the facility. The facility ATM or designee will mail the cancelled CA to the FAA-A MIC within five (5) working days.

7. Invalidation of Certificate of Authority. When a CA holder terminates employment for any reason, retires, or changes to a position not requiring PWB duties, the facility supervisor will notify the FAA-A MIC as soon as possible and mail the original CA for invalidation. The PWB CA database at the FAA-A will be updated to reflect the change and will remain a record

for two (2) years after the invalidation date. A CA can be returned to retired employees once invalidated if the request is made to the FAA-A MIC.

8. Revalidation of Certificate of Authority. Use the following to determine how to revalidate the CA.

a. If the CA has been invalid for two (2) years or less, recertification can be accomplished by successfully completing an oral examination. Facilities contact the FAA-A MIC to schedule the oral evaluation and the NWS evaluator will use the Oral PWB evaluation sheet to determine the briefer's performance score. If a passing score is achieved, a new CA will be issued.

b. If the CA has been invalid for more than two (2) years, recertification requires completion of all (weather analysis, satellite, radar) written exams, and the oral examination. All exams are requested from the FAA-A MIC. Written exams are proctored at the facility by the ATM or designee.

9. Certificate of Authority for FAA Academy Instructors. Anyone assigned as an FAA-A instructor will have all PWB training records and the original CA from their duty station mailed to the FAA-A Flight Service Supervisor for filing. For FAA-A duty assignments, CA's remain valid. Upon return to a facility which requires working PWB duties, the instructor must have a proficiency check administered by an NWS evaluator within six (6) months of arrival at the facility to revalidate the CA.

10. Quality Assurance. Policy established in the Memorandum of Understanding between the FAA and the NWS for Policy Agreements, states the NWS will establish standards for provision of operational weather information for PWBs and will provide quality control over these services. Quality control will be accomplished during facility site visits (as resources allow); by scheduled or anonymous calls to the facility requesting a PWB; and by requesting recorded tapes of PWBs from the AFSS facility. When the request is received, the tapes are mailed to the FAA-A within five (5) working days. The FAA-A will provide feedback to the AFSS manager and/or Support/Training specialist(s) within two weeks after receipt of tapes.

Appendix A - Pilot Weather Briefing Oral Exam Performance Standards

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1. Performance Standards. Standards of performance for presentation of pilot weather briefings have been developed for NWS evaluating officials to use when conducting oral exams for FAA employees. In accordance with standard examination policies, it will be expected that the examinee will act without assistance. This Appendix provides guidance in the administration of, and preparation for, the Oral Pilot Weather Briefer Examination. Tasks and performance indicators are consistent with official publications, interpretation, and guidance. Performance standards have been reviewed by FAA managers and instructors at the FAA-A in order to apply uniformity in scoring of elements that are also found in FAA Orders such as the 7110.10.

"Expected Performance" categories are identified on the left side of each page. Statements of criteria to be measured for each task are labeled "Performance Indicators", and are on the right side of each page. "Expected Performance" is measured by observing actual performance, and comparing against the "Performance Indicators". "Complete" and "accurate" are the basic criteria for evaluation of performance. Supplementary information has been provided, when necessary, to convey intent and to furnish additional instruction and guidance.

1.1 Background Information

EXPECTED PERFORMANCE	PERFORMANCE INDICATOR
A. Obtains required background information	Utilizes checklist and briefing background information that includes: - Type of flight (VFR or IFR) - Aircraft type, identification - Departure point and Destination - Estimated time of departure (ETD) - Proposed altitude and route of flight - Estimated time en route (ETE), and/or Estimated time of arrival (ETA)

Supplementary Information: Examiner will ensure that the ETD is within 2 hours of the time of the briefing. ETA is requested or computed from ETD and ETE.

1.2 Briefing Content

EXPECTED PERFORMANCE	PERFORMANCE INDICATOR
A. States applicable adverse conditions	Statement of significant weather and/or aeronautical information that impacts pilot's decision to cancel, postpone, or alter a proposed flight. These conditions include: - Thunderstorms - Icing and freezing precipitation - Turbulence, strong low level winds, LLWS - Ceiling/ visibilities below VFR minima - Mountain obscuration Conditions must be pertinent to: - proposed route/altitude or alternate - type of aircraft and flight - proposed time of flight

Supplementary Information: Delivery of extraneous information (adverse conditions, current and forecast conditions, etc.) will result in point deductions. An example of when points would be deducted is when a briefer provides Airmet Sierra for an enroute portion of a high level flight.

Requirements for changing altitude (FAR 91.159, FAR 91.179) might expose the pilot to adverse weather conditions. Therefore, adverse conditions pertinent to flight are evaluated based on type of flight (VFR, IFR), aircraft capability, meteorological conditions, etc.

EXPECTED PERFORMANCE	PERFORMANCE INDICATOR
B. Recognize and apply VNR statement	- States VFR Not Recommended (VNR) if applicable (determine from basic VFR cloud and visibility requirements) - Supports VNR statement with brief description of the meteorological conditions, whether: actual or forecast, surface based or aloft, which might make VFR flight doubtful.

Supplementary Information: Adverse conditions and VNR are included as one item on the evaluation sheet. Every evaluation should contain adverse conditions. Pertinent adverse weather conditions should be provided. Failure to cover any of the adverse conditions, or VNR statement, when applicable to a given route, will result in forfeiture of all evaluation credit allotted to "Adverse Conditions" (i.e., 30 points).

The inclusion of non-pertinent conditions will also result in point deductions of up to 20 points. Due to the individual subjectivity involved in the determination of adverse weather conditions or VNR statement, an examinee may at times communicate conditions not noted directly on the route. If they can justify their statements to the evaluator's satisfaction, there will be no penalty for "non-pertinent information" on the evaluation sheet.

EXPECTED PERFORMANCE	PERFORMANCE INDICATOR
C. Provides synopsis	Brief verbal statement outlining dominant feature or weather-generating factor(s) along the pilot's intended route of flight Statement should include: - Pressure patterns (surface and aloft) - Movement of major weather systems - Surface fronts and troughs - Moisture and stability - Other pictorial details

Supplemental Information: This element may be combined with adverse conditions and/or the VNR statement if the briefer can associate an adverse condition or VNR statement with dominant weather features along the intended route.

EXPECTED PERFORMANCE	PERFORMANCE INDICATOR
D. Provide current en route and terminal weather conditions	Summarize the weather and provide required data for the proposed flight

1)	VFR Flight	Required data when applicable to proposed flight: - departure weather - cloud cover amounts and bases - cloud tops if pilot indicates VFR flight on top intended - IFR weather not include in advisories - mountain obscurations - visibilities and obscuring phenomena - turbulence, include strong winds and shear - thunderstorms, tops, lines, movement - icing - destination weather - alternate route/altitude when appropriate
2)	IFR Flight	Required data when applicable to proposed flight: - departure/climb out weather - cloud cover amounts, bases, and tops - thunderstorms, tops, movement - embedded thunderstorms and icing - turbulence, include strong winds and shear - obscurations at/near cruising altitude - descent/destination weather - alternate route/altitude when appropriate - alternate destination weather
3)	High Altitude Flight	Required data when applicable to proposed flight: - departure/climb out weather - CB/thunderstorm tops, movement - icing at departure or destination - jet stream location - turbulence/clear air turbulence (CAT) - descent/destination weather - alternate route/altitude when appropriate - alternate destination weather

EXPECTED PERFORMANCE	**PERFORMANCE INDICATOR**
E. Provide forecast en route and terminal weather conditions	Summarize en route forecast conditions in a logical order, i.e., departure/climb out, enroute/cruise, and descent/destination.
1) VFR Flight	Required data when applicable to proposed flight:

		- cloud cover amounts and bases - cloud tops on pilot request - IFR weather not included in advisories - mountain obscurations (if applicable) - thunderstorms, tops, movement - visibilities and obscuring phenomena - turbulence, include strong winds and shear - icing/freezing level(s) (if applicable) - thunderstorms, precipitation - alternate route/altitude when appropriate
	2) IFR Flight	Required data when applicable to proposed flight: - departure/climb out weather - cloud cover amounts, bases, and tops - thunderstorms, tops, movement - embedded thunderstorms - turbulence, include strong winds and shear - icing/freezing level(s) (if applicable) - precipitation and precipitation tops - obscuring phenomena - descent weather - alternate route/altitude when appropriate
	3) High Altitude Flight	Required data when applicable to proposed flight: - departure/climb out weather - CB/thunderstorm tops, movement - Jet stream location/Turbulence/CAT - icing/freezing level(s) (if applicable) - precipitation and precipitation tops - descent weather - alternate route/altitude when appropriate
EXPECTED PERFORMANCE		**PERFORMANCE INDICATOR**
F.	**Provide destination forecast weather**	Uses most recent aviation terminal forecast (TAF) when applicable - when TAF not available, extracts general forecast from all available data. Identifies source(s) - (Ex: FA, TWEB, prog charts) - time frame is relevant to ETA - significant changes (1 hr before/after ETA) - alternate destination forecast if appropriate

EXPECTED PERFORMANCE		PERFORMANCE INDICATOR
G. Provide winds aloft forecasts, and temperatures when appropriate		
1)	Provide wind direction and speed	- provides wind direction in degrees and wind speed or summarizes using cardinal directions - uses valid forecast times - interpolates between forecast altitudes and stations when appropriate - upon request, provides most favorable altitude for winds - provides significant changes in direction or speed along the proposed route
2)	Provides temperatures aloft	- provide when icing potential exists - provide upon pilot request - summarizes when applicable - interpolate when appropriate

Supplementary Information (Comments apply to all sub-sections above): Based upon information available regarding actual and forecast weather conditions, the examiner evaluates the briefing in terms of correct interpretation of the available meteorological data, as well as in terms of completeness and relevance.

The specific information presented by the examinee must, in the judgement of the examiner, present an accurate picture of current and forecast weather conditions. Failure to accurately convey the data received for all phases of the flights weather, both current and forecast, will result in point deductions from the applicable element under the "Briefing Content" section.

Opportunity and necessity for summarization varies with each briefing - however the data sources are constant. Evaluation will be made on the utilization of available information for each phase of the flight, in terms of timeliness and completeness, as well as on the nature of what is actually conveyed to the pilot. Failure to use appropriate data sources to satisfy the performance indicators will result in point deductions. However, the examinee should be questioned on missing data when the formal briefing has been completed. No one should lose points for failing to convey unavailable data.

Freezing level will be provided when the proposed altitude for the flight is at or above the actual or forecast freezing level and visible moisture is present or forecast for the area of concern. Generally an icing threat exists when this situation occurs.

Temperatures aloft are not routinely given to low-level flights unless, in the opinion of the briefer, one of the following is probable: Unusually hot/cold weather is likely to impact altimeter and density considerations, an icing potential exists, or if requested by the pilot.

If IFR conditions are expected along the route, they should be repeated during the forecast portion of the briefing. This eliminates potential confusion possibly caused when using the FA which forecasts MVFR or better conditions.

EXPECTED PERFORMANCE		PERFORMANCE INDICATOR
1.3 Quality Factors		
1)	Ability to organize briefing	Examinee must organize and summarize weather conditions in logical phases of flight (i.e., departure, en route, arrival phases).
2)	Ability to anticipate pilot needs	Uses information derived from type of flight, altitude(s), and aircraft characteristics (e.g. jet, helicopter, etc.) to satisfy the pilot's operational needs for weather information WITHOUT pilot having to make excessive requests to the briefer for routinely available data.
3)	Customer service - briefer attitude	Conveys attitude of competence - delivery of information in straightforward and helpful manner - providing assistance without making actual decision for pilot - provide courteous and professional brief
4)	Briefer confidence	Conveys confidence in use of weather information - Pace and voice quality - Ability to provide accurate weather picture - Convey understandable briefing to pilot without need for excessive repeats
5)	Ability to respond to evaluator questions	Answer questions which explore briefer level of meteorological and aeronautical knowledge - use to provide basis for evaluation in areas not demonstrable in other portions of brief
6)	Interpretation of radar and satellite data	Has sound knowledge of radar and satellite - cloud impacts to proposed flight - clouds along route not in METARs - cloud signatures

		- identify precipitation radar echoes - identify non-precipitation radar echoes - radar/satellite support to advisories
7)	Miscellaneous elements	Uses all available briefing aids - knowledge of local terrain - knowledge of potential meteorological anomalies as appropriate - sound aeronautical knowledge (e.g. VFR minimums, IFR requirements, minimum en route altitude concept, altimeter setting information, and density altitude concept and effects)

Appendix B - Facility Visitation Site Evaluation Report

U. S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service

WS Form 10-809-2 (7-1-03)

Facility Visitation
Site Evaluation Report

Facility visited: 3-letter ID... City, State

Name of FAA Academy person conducting Visit:

Facility Manager Name:

Date of visit:

1. Pilot Weather Briefings - Proficiency checks (monitoring acceptable)

Type of Pilot Weather Briefing	Number monitored	Rating E	Rating S	Rating U
VFR				
IFR				
In-Flight				
EFAS				

2. Product use / interpretation
(Brief weather synopsis and how products used)

E = Excellent
S = Satisfactory
U = Unsatisfactory

Product type	Rating E	Rating S	Rating U		Rating E	Rating S	Rating U
Satellite imagery				Radar			
Weather Graphics				METARs			
TAFs				FAs			
TWEBs				Advisories			
Winds aloft				NCWF			
CWSU products				CCFP			
Use of PIREPs				Other:			

3. Quality of Other Programs

Activity	Rating E	Rating S	Rating U
EFAS			
Broadcasts (TIBs, PATWAS, etc)			
Automated Equipment Type:			

4. Other remarks: (use additional pages if required)

Appendix C - Oral Pilot Weather Briefing Evaluation Report

Form 10-809-3 (7-1-03) U.S. Department of Commerce National Oceanic and Atmospheric Administration **ORAL PWB EVALUATION SHEET**			Briefer:		
			Station:		
1. BACKGROUND INFORMATION	MAX. SCORE	SCORE	Evaluator:		
Type of Flight, Aircraft I.D., Aircraft type, Departure point, Route of Flight, Destination, Altitude, Time of departure, Time En Route	5		Date:		
			Route: Low level = High level =		
Total	5		**3. QUALITY FACTORS**	MAX. SCORE	SCORE
			Ability to organize briefing	3	
2. BRIEFING CONTENT	MAX. SCORE	SCORE	Ability to anticipate pilot needs	4	
Adverse Conditions: All points deducted if any Adverse Condition missed, and/or failure to give VNR statement when appropriate Partial deduction if non-applicable conditions given	30		Customer service - briefer attitude	4	
			Briefer confidence	4	
Synopsis	5		Ability to respond to evaluator's questions	5	
Current Conditions	15		Interpretation of radar and satellite	5	
Forecast Conditions	15		Miscellaneous elements: Knowledge of local terrain. Demonstration of Aeronautical Knowledge	5	
Total	65		Total	30	
Minimum Passing Grade = 70 %			SCORE For oral evaluation: **TOTAL**		
Names of Facility participants in debrief :					
Remarks: Debrief comments					

Appendix D - Personnel And Action Item Report

WS Form 10-809-4 (7-1-03)	**U.S. DEPARTMENT OF COMMERCE** NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	**ORIGINAL TO:** MIC, FAA Academy **COPY:** WFO, AFSS, RAM
PERSONNEL AND ACTION ITEM REPORT		

WFO AREA:		STATION VISITED:		DATE:	
EVALUATOR:		TYPE OF VISIT (Scheduled, special, emergency, etc.):		DATE OF LAST VISIT:	

FAA PERSONNEL CERTIFICATIONS

Name (List each one)		No. of Certificate	Date of Certificate	Remarks
	ATM			

PERSONNEL TRANSFERRED IN OR OUT OF STATION SINCE LAST VISIT

Name	To or From	Date	Remarks

PERSONNEL NOT CURRENTLY CERTIFIED (In training, cancelled, etc.)

Name	Remarks

COMMENTS

Appendix E - NWS and FAA Employee Qualification Report

WS FORM D-5 (MODIFIED) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S.DEPARTMENT OF COMMERCE REF. NWSI 10-809
(09/05/02) NATIONAL WEATHER SERVICE

PILOT WEATHER BRIEFING
NWS AND FAA EMPLOYEE - QUALIFICATION REPORT

Prepare three copies: Original to Student; 1 for Site, and 1 for file

To:

Through:

From: MIC NWS, W/SR64
FAA Academy
P.O. Box 25082
Oklahoma City, OK 73125

Signature: _____

Date

I – TYPE OF EXAMINATION

Written Examination

II – RECORD OF WRITTEN EXAMINATION

	Score	Date	Passed / Failed
Weather Analysis			
Satellite			
RADAR			

III – RECORD OF ORAL EXAMINATION

	Score	Date	Passed / Failed
Oral Examination			
Oral Re-Examination			
Proficiency Check			
Proficiency Exam			

IV – STATUTE OF QUALIFICATIONS

WS FORM D-5 (09/05/02) SUPERCEDES PREVIOUS EDITIONS

Appendix F - Meteorological Interpretation Checklist

This checklist will be used as guidance for aviation forecasters visiting FAA AFSS/FSS facilities. Forecasters will complete and check each item during the visit and Complete this Appendix F and send the original to FAA-A MIC with Appendix D, Personnel and Action Item Report. WFO personnel will keep a copy of these forms at the WFO, send one copy to the Regional Aviation Meteorologist at the respective RH, and one copy to the AFSS facility visited.. If problems arise with any items, place an "X" instead of a check mark. WFOs can either work with the AFSS to provide additional training for the problem items, or contact the FAA-A for further support. Any comments or formal write-ups of the visit will be attached to this checklist.

1. Administrative and Training

   a. Facility Name _____ Visited by (name/office) _____
   b. In-brief with FAA Facility Manager or designee, and training support specialist(s) or quality assurance
   c. Personnel Roster updated and attached to this checklist
   d. Facility training activities discussed; support from NWS extended if necessary
   e. Review of completed action items from previous visit (if any)

2. FAA System(s) in use: (check applicable)

   ❑ Model 1 (Full Capacity)
   ❑ OASIS Installation date _____ Training completion date_____
   ❑ WSI
   ❑ SUA/ISE
   ❑ Other (List) _____

3. Meteorological Products and Interpretation

   a. WFO

      (1) TAFs

      ❑ Use and interpretation of coded reports for visibilities and restrictions to visibility
      ❑ TEMPO group interpretation
      ❑ PROB group interpretation
      ❑ FM/BECMG group interpretation
      ❑ Correct summarization of TAF groups along PWB routes
      ❑ Knowledge of LLWS in TAF, including levels of forecast

      (2) Transcribed Weather Broadcasts (TWEB)

- ❑ Usefulness of product in FAA PWB operations
- ❑ Correct interpretation of route forecast products

b. AWC/AAWU (Centrally produced but not necessarily by both centers)

(1) Area Forecast

- ❑ Altitude reference interpretation (MSL unless prefaced by AGL or CIG)
- ❑ Cloud top interpretation (when not explicitly defined in time frame)
- ❑ Surface based total obscuration interpretation

(2) Convective SIGMET (WST - Continental U.S.)
SIGMETs for Convection (SIGMET WS - International Airspace)

- ❑ Ability to summarize and compare to radar
- ❑ Proper reference to AC product as applicable

(3) Collaborative Convective Forecast Product (CCFP)

- ❑ Knowledge and proper use of product

(4) National Convective Weather Forecast (NCWF)

- ❑ Product use and briefing limitations (absence of development and decay)
- ❑ Knowledge of update frequency

(5) Current Icing Potential (CIP)

- ❑ Product usage and briefing limitations (it is not a measure of icing intensity or potential)
- ❑ Knowledge of update frequency

(6) Significant Meteorological Advisory (SIGMET)

- ❑ Ability to summarize and compare to Pilot Reports (PIREP)

(7) Airman's Meteorological Advisory (AIRMET)

- ❑ Ability to determine area affected (especially when time referenced in product is transitional)
- ❑ Ability to determine ending time of phenomena when ending before routine expiration time
- ❑ Proper dissemination to pilot for proposed route of flight

(8) Winds Aloft (FD)

- ❑ Use of correct time periods from winds aloft tables
- ❑ Ability to correctly read winds and associated temperatures at all levels
- ❑ Ability to interpolate FDs for PWB routes/altitudes

(9) Convective Outlook (AC)

- ❑ Interpretation and correct cross-reference to WST
- ❑ Interpretation assistance of meteorological terms in product
- ❑ Good working knowledge of CAPE for use in PWB background information
- ❑ Understanding thresholds (general thunderstorms, slight, moderate, and high risk)

c. CWSU

- ❑ Ability to retrieve and interpret Center Weather Advisories
- ❑ Ability to retrieve and interpret Meteorological Impact Statements
- ❑ Knowledge of difference between CWA and MIS

d. Satellite Interpretation

- ❑ Interpretation of synoptic scale features – frontal boundaries, commas, leafs
- ❑ Ability to identify low ceilings and visibilities
- ❑ Identification of squall lines on visible and infrared satellite pictures
- ❑ Placement of polar jet stream using satellite imagery
- ❑ Able to associate cirrus streaks with clear air turbulence
- ❑ Interpretation of turbulence and adverse winds in vicinity of jet streams
- ❑ Interpretation of low stratus and fog, haze, smoke, blowing dust, volcanic dust
- ❑ Identification of cumulus clouds, streets, thunderstorms, arc clouds, lake effects, local winds (sea, land, lake, and valley breezes), and mountain waves.
- ❑ Determining cloud trend from satellite loops

e. Radar Interpretation

- ❑ Able to pick out ground clutter/anomalous propagation/chaff
- ❑ Interpretation of intense activity
- ❑ Correctly used echo tops
- ❑ Interpretation of bright band correct (if present)
- ❑ Correct use of VAD winds and limitations
- ❑ Determining precipitation trends from radar loops
- ❑ Other

f. Weather Charts

- ❑ Surface Analysis
- ❑ 850 mb, 700 mb, 500 mb, 300 mb, 250 mb, 200 mb
- ❑ Weather Depiction
- ❑ Radar Summary
- ❑ Composite Moisture/Stability
- ❑ Low-level Significant Weather Prognosis (Prog)
- ❑ 36- and 48-hour Surface Prog
- ❑ High-level Significant Weather Prog
- ❑ Winds and Temperature Aloft Prog
- ❑ Convective Outlook Chart

g. Public Forecast Products

- ❑ Area Forecast Discussion use and interpretation
- ❑ Mesoscale Discussions
- ❑ Interpretation assistance of meteorological terms
- ❑ Other