U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

ORDER JO 7220.4

Effective Date:
October 1, 2012

SUBJ: FAA Certification of Pilot Weather Briefing and En Route Flight Advisory Service

1. Purpose of This Order. This order details procedures and responsibilities for the Federal Aviation Administration (FAA) certification process for Pilot Weather Briefing (PWB) and En Route Flight Advisory Service (EFAS). Testing and certification must be administered by FAA Air Traffic Organization (ATO), Flight Services, Safety and Operations Group (FSSOG) personnel. This order is the governing document for FAA certification of all pilot weather briefers and EFAS specialists.

2. Audience. This order applies to all ATO personnel and anyone using ATO directives.

3. Where Can I Find This Order? This order is available on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/.

4. Tasks and Procedures. The FAA FSSOG must:

a. Administer and grade the written weather analysis, satellite, and weather radar tests and the oral PWB practical examinations (see Appendix A, Pilot Weather Briefing Certification Oral Practical Examination Standards; and Appendix B, FAA Form 7220-2, FAA Oral PWB Evaluation Sheet). The FAA evaluator must conduct a telephone debriefing after the conclusion of each oral examination.

b. Issue certificates of authority (CA) to certified pilot weather briefers and maintain the official PWB Certificate database.

c. Administer and grade the written EFAS certification test and the oral EFAS practical examination (see Appendix C, En Route Flight Advisory Service Certification Oral Practical Examination Standards; and Appendix D, FAA Form 7220-3, FAA Oral EFAS Evaluation Sheet). The FAA evaluator must conduct a telephone debriefing after the conclusion of each oral examination.

d. Issue CAs to certified EFAS specialists and maintain the official EFAS Certificate database.

e. Maintain a working knowledge of Flight Service facility operations, training, and certification services.

f. Confer with Federal Contract Flight Service and FAA Flight Service personnel at national levels on proposed changes and updates to the certification program.

5. Pilot Weather Briefing Certification. Each PWB certification candidate must pass the written weather analysis, satellite, and radar tests and an oral practical examination in order to receive an FAA PWB Certificate.

a. Qualification Training. PWB candidates receive their initial qualification training from either the FAA or the Federal Contract Flight Service provider. This training must be successfully completed before the PWB candidate attempts to pass the PWB certification tests. Candidates must receive PWB position training at his/her flight service station before taking the oral practical examination.

b. Written PWB Certification Tests. PWB candidates must successfully pass three FAA written certification tests proctored by the facility training staff: weather analysis, satellite, and weather radar. The minimum passing grade for each test is 70 percent. The FAA FSSOG must create an FAA Form 7220-4, Qualification Report (appendix E), noting scores for each candidate upon completion of the tests, and e-mail a copy of each report to the student's assigned facility. If a candidate fails any of the tests, a formal request to retake the test(s) must be made to the FAA FSSOG manager. All three written tests must be passed before a candidate may be permitted to take the oral PWB practical examination.

c. Oral PWB Practical Examination. PWB candidates must successfully pass an oral PWB practical examination. The examination must be completed within 2 years of passing the written certification test. The flight service facility manager will ensure a candidate has received sufficient on-the-job training with a certified pilot weather briefer within the 6 months prior to the examination. A statement from the manager or designee that the candidate is prepared to take the examination must be included when requesting the oral examination. The examination must be administered by telephone or at the duty station. While the FAA FSSOG allows a supervisor or training specialist to listen during this examination, no help may be provided to the student.

(1) The practical examination must be recorded by the FAA FSSOG examiner and may be reviewed by the FAA FSSOG manager for quality control and improvement of the PWB evaluation program. FAA Form 7220-2, FAA Oral PWB Evaluation Sheet (appendix B), is used to determine the student's practical examination grade.

(2) The FAA FSSOG evaluator must ensure the oral PWB practical examination tests the candidate's ability to gather all pertinent weather and aeronautical data and present it to the pilot in a logical, concise, and easily-understood manner. For each briefing, the candidate will clearly state pertinent current and forecast adverse conditions, current weather, forecast weather, and aeronautical information. The examination will also assess the student's radar and satellite interpretation skills. At any point during the examination and following debrief, the FAA FSSOG evaluator may terminate, nullify, and reschedule the examination.

(3) The PWB practical examination consists of one low-level (below FL240) and one high-level (FL240 and above) pilot weather briefing. Each flight will be at least 200 nautical miles long and evaluated in three general areas: background information, briefing content, and quality factors.

(4) To ensure objective quality control, validation, and standardization, the oral PWB practical examination must contain adverse weather and aeronautical conditions along the route of flight, either at low-level or high-level. This ensures a uniform level of difficulty and makes the examination score a reliable indicator of individual performance. Adverse weather conditions include: low ceilings, reduced visibility, thunderstorms, mountain obscurations, turbulence, freezing precipitation, icing, strong low-level winds, low-level wind shear, volcanic ash, tropical cyclones, dust storms, sandstorms, and high-density altitude. Adverse aeronautical conditions include, but are not limited to, airport/runway closures, temporary flight restrictions, and air traffic delays. Failure to alert the pilot of an adverse condition may affect the pilot's safety of flight. Detailed evaluation guidelines and standards of performance are provided in appendix A of this order. The minimum passing score is 70 points.

(5) The FAA FSSOG evaluator must provide oral comments during the examination debriefing. A request for a written evaluation must be submitted to the FAA FSSOG manager for approval. FAA Form 7220-4, Qualification Report (appendix E), must be forwarded to the flight service facility manager and training coordinator after a candidate completes each evaluation.

(6) If the candidate fails a written PWB test or oral PWB practical examination, the FAA evaluator must discuss problem areas with the student and facility managers before scheduling a retake.

Facility training will be conducted to the facility manager's satisfaction before a retake. The FAA FSSOG must keep information on failures on file until the student passes.

d. PWB Certification and Flight Plan Areas/Area of Responsibility. The FAA requires each pilot weather briefer have a sufficient understanding of his or her primary flight plan area (FPA)/area of responsibility (AOR). This entails having a working knowledge of geography, terrain, and surface observation locations. Typically, whether a briefer has (or does not have) this working knowledge will become apparent to the FAA evaluator during an oral practical examination and will be reflected in the score. Any briefer who exhibits this knowledge and passes the oral examination will be certified for that FPA, which must be recorded on FAA Form 7220-2, FAA Oral PWB Evaluation Sheet (appendix B), and in the FAA FSSOG database.

e. International PWB Proficiency Check. Briefers that provide pilot weather briefings outside of U.S. airspace (excluding Canada, Mexico, and the Miami AOR) are required to have an international PWB proficiency check. Briefers must score 70 points or higher on an FAA proficiency check based on the elements of the International PWB Checklist Worksheet (appendix F) before they may conduct international pilot weather briefings. This responsibility requires only supplemental training and no additional certification is required. The results of the proficiency check are documented on FAA Form 7220-4, Qualification Report (appendix E). Successful completion of the oral evaluation is also noted in the specialist's training record and in the FAA FSSOG database.

6. EFAS Certification. EFAS candidates must pass both a written EFAS certification test and an oral EFAS practical examination in order to receive an FAA EFAS Certificate.

a. Qualification Training. EFAS candidates receive their training from the Federal Contract Flight Service provider. This training must be successfully completed before the EFAS candidate attempts to pass the written EFAS certification test. Candidates must also receive EFAS position training at his/her flight service station before taking the oral EFAS practical examination.

b. EFAS Written Certification Test. EFAS candidates must successfully pass the FAA EFAS written certification test proctored by the facility training staff. The minimum passing grade is 70 percent. Upon completion of the test, the FAA FSSOG must create an FAA Form 7220-4, Qualification Report (appendix E), noting scores for each candidate, and e-mail a copy of the report to the student's assigned facility. In the event of failure, a formal request to retake the written test must be made to the FAA FSSOG manager.

c. Oral EFAS Practical Examination. EFAS candidates must successfully pass an oral EFAS practical examination. The examination must be completed within 2 years of passing the written tests. The flight service facility manager should ensure a candidate has received sufficient on-the-job training with a certified EFAS specialist within the 6 months prior to the examination. A statement from the manager or designee that the candidate is prepared to take the examination must be included when requesting the oral examination. It must be administered by telephone or at the duty station. While the FAA FSSOG allows a supervisor or training specialist to listen during this examination, no help may be provided to the student. The practical examination is recorded by the FAA examiner and may be reviewed by the FAA FSSOG manager for quality control and improvement of the EFAS evaluation program. FAA Form 7220-3, FAA Oral EFAS Evaluation Sheet (appendix D), is used to determine the student's practical examination grade.

(1) The FAA FSSOG evaluator must ensure the oral EFAS practical examination tests the candidate's ability to gather all pertinent weather and aeronautical data and present it to the pilot in a logical, concise, and easily-understood manner. For each briefing, the candidate will clearly state pertinent current and forecast adverse conditions. At a minimum, it must cover all available weather

information which meets the pilot's specified request. The examination will also assess the student's radar and satellite interpretation skills. At any point during the examination and following debrief, the FAA FSSOG evaluator may terminate, nullify, and reschedule the examination.

(2) The Oral EFAS Practical Examination consists of four contacts. The general areas evaluated in each contact are: background information, obtaining pilot request, adverse conditions, answering pilot request, and quality factors.

(3) To ensure objective quality control, validation, and standardization, the oral EFAS practical examination must contain adverse weather along the route of flight, either at low-level or high-level. This ensures a uniform level of difficulty and makes the examination score a reliable indicator of individual performance. Adverse weather conditions include: low ceilings, reduced visibility, thunderstorms, mountain obscurations, turbulence, freezing precipitation, icing, strong low-level winds, low-level wind shear, volcanic ash, tropical cyclones, dust storms, sandstorms, and high-density altitude. Failure to alert the pilot of an adverse condition may affect the pilot's safety of flight. Detailed evaluation guidelines and standards of performance are provided in appendix C of this order. The minimum passing score is 70 points.

(4) The FAA evaluator must provide oral comments during the examination debriefing. A request for a written evaluation must be submitted to the FAA FSSOG manager for approval. FAA Form 7220-4, Qualification Report (appendix E), must be forwarded to the flight service facility manager and training coordinator after a candidate completes each evaluation.

(5) If the candidate fails an oral EFAS practical examination, the FAA evaluator must discuss problem areas with the student and facility managers before scheduling a retake. Facility training will be conducted to the facility manager's satisfaction before a retake. The FAA FSSOG must keep information on failures on file until the student passes.

d. EFAS Certification and Areas of Responsibility. The FAA requires each EFAS specialist to have a sufficient understanding of his or her primary AOR. This entails having a working knowledge of geography, terrain, and surface observation locations. Typically, whether a briefer has (or does not have) this working knowledge will become apparent to the FAA evaluator during an oral practical examination and will be reflected in the score. Any briefer who exhibits this knowledge and passes the oral examination will be certified for that AOR, which must be recorded on the Briefing Evaluation form and in the FAA FSSOG database.

7. Quality Assurance. The FAA FSSOG must establish standards for provision of operational weather and aeronautical information for pilot weather briefing and must provide quality control over these services. Facility site visits (as resources allow), scheduled or anonymous proficiency checks, and recordings of PWB or EFAS pilot weather briefings from flight service facilities are all ways to accomplish quality control.

a. Proficiency Checks. A proficiency check is an oral evaluation of either a PWB or EFAS CA holder. Only FAA evaluators are authorized to perform proficiency checks that may result in loss of a PWB or EFAS CA. Proficiency checks may be conducted by telephone or at the duty station. They may be scheduled by the FAA evaluators or conducted at random by anonymous telephone calls to flight service facilities.

(1) PWB proficiency checks.

(a) FAA Form 7220-2, FAA Oral PWB Evaluation Sheet (appendix B), is used to determine the performance score. The FSSOG completes FAA Form 7220-4, Qualification

Report (appendix E), and sends it electronically to the facility for their employee training records. Results are also entered into the FAA PWB or EFAS CA database as appropriate.

(b) A PWB proficiency check failure results in the suspension of both the briefer's PWB and EFAS (if applicable) CA. During the suspension, the briefer cannot provide any pilot weather briefings without the direct supervision of a person holding the proper valid (non-suspended) CA. Remedial training should be conducted to the facility manager's satisfaction before a follow-up oral PWB practical examination is conducted. The FAA FSSOG manager removes both suspensions if the briefer passes a follow-up oral PWB practical examination. If the briefer fails the oral PWB practical examination, the briefer's PWB and EFAS (if applicable) CA will be cancelled.

(2) EFAS proficiency checks.

(a) FAA Form 7220-3, FAA Oral EFAS Evaluation Sheet (appendix D), is used to determine the performance score. The FSSOG will complete FAA Form 7220-4, Qualification Report (appendix E), and send it electronically to the facility for their employee training records. Results are also entered into both the FAA PWB and EFAS CA database.

(b) An EFAS proficiency check failure results in the suspension of the briefer's PWB and EFAS CA. During the suspension, the briefer cannot provide any pilot weather briefings without the direct supervision of a person holding the proper valid (non-suspended) CA. Remedial training will be conducted to the facility manager's satisfaction before a follow-up oral EFAS practical examination is conducted. The FAA FSSOG manager removes both suspensions if the briefer passes a follow-up oral EFAS practical examination. If the briefer fails the oral EFAS practical examination, the briefer's EFAS CA will be cancelled. The PWB CA remains suspended until the briefer passes an oral PWB practical examination.

(3) Proficiency Check Requirements. Proficiency checks are conducted for one of following reasons:

(a) When a briefer holding a PWB and/or EFAS CA is reassigned to a new FPA where the terrain or prevailing weather regime are significantly different and/or when the new FPA has international PWB responsibilities. Flight service facility management contacts the FAA FSSOG manager immediately after a briefer transfers to a new FPA. The FAA FSSOG manager or designee will make a determination if a proficiency check is required.

(b) When, for any reason (for example, temporary assignment, extended illness, etc.), a PWB CA holder has not provided a pilot weather briefing for at least 6 months. The PWB proficiency check must be passed before the CA holder is allowed to brief without the direct supervision of a person holding a valid (non-suspended) PWB CA.

(c) When an EFAS certificate holder has not provided an EFAS pilot weather briefing for at least 1 year (but has still been conducting telephone and inflight weather briefings). The proficiency check must be passed before the CA holder is allowed to brief without the direct supervision of a person holding a valid (non-suspended) EFAS CA.

(d) As deemed necessary or pertinent by the FAA FSSOG manager.

b. Recordings. The FAA FSSOG manager may request PWB or EFAS recordings from any flight service facility. When the request is received, the recordings should be mailed to the FAA FSSOG within 5 working days. The FAA FSSOG must provide feedback to the facility manager and/or training specialist(s) within 2 weeks after receipt of the recordings.

8. Certificates of Authority (CA). The FAA FSSOG is the official repository for all FAA PWB and EFAS CA. The records are maintained in an electronic data base. Backup copies of these certificates are kept on file at the appropriate flight service facilities.

a. PWB CA. The FAA FSSOG manager must issue a PWB CA after the candidate has successfully passed the weather analysis, satellite, and weather radar written certification tests and the oral PWB practical examination. The certificate number (subparagraph 8c) and issue date must be entered in the PWB CA database, which resides at the FAA FSSOG.

b. EFAS CA. The FAA FSSOG manager must issue an EFAS CA after the candidate has successfully passed the EFAS written certification test and the oral EFAS practical examination. The individual's certificate number (subparagraph 8c) and issue date must be entered in the EFAS CA database which resides at the FAA FSSOG.

c. CA Naming Convention. Certification numbers will use the following naming convention:

(1) F, for "FAA"

(2) P, for PWB certificates; or E, for EFAS certificates

(3) YY, the 2-digit year

(4) XXX, numbered sequentially, beginning with 001 each calendar year

EXAMPLE-
FP12001

Or

FE12003

d. Issuing CA.

(1) The FAA FSSOG manager must issue the appropriate certificate and forward it electronically to the flight service facility manager within 10 working days. The certificate must show the date the candidate passed the oral practical examination, which is recognized as the date the candidate was officially authorized to perform PWB/EFAS duties without supervision.

(2) A copy of each certificate must remain on station and be readily available for inspection by FAA personnel. The flight service facility manager may provide a copy of the certificate to the briefer, if requested. When a briefer is reassigned to a new flight service facility, his/her CA must be forwarded to the new facility.

e. Suspending CA.

(1) Both the PWB and EFAS (if applicable) CA are suspended if a briefer fails (scores less than 70 percent) any FAA PWB oral evaluation or proficiency check. An FAA Form 7220-4, Qualification Report (appendix E), indicating the suspension is sent electronically to the flight service facility. When a briefer's certificate is suspended, he/she cannot provide any pilot weather briefings without the direct supervision of a person holding the proper valid (non-suspended) CA.

(2) The flight service facility managers and trainers may obtain training recommendations from the FAA FSSOG. Practical examination(s) may be scheduled after appropriate training is accomplished. The FAA FSSOG Manager removes both suspensions if the briefer passes the follow-up practical examination(s).

f. Cancelling CA. Both the PWB and EFAS (if applicable) CA are cancelled if the briefer fails (scores less than 70 percent) the follow-up oral practical examination after his/her certificate has been suspended. An FAA Form 7220-4, Qualification Report (appendix E), indicating the cancellation is electronically sent to the facility. The facility manager or designee will acknowledge the cancelled CA to the FAA FSSOG Manager within 5 working days.

g. Invalidating CA. When a CA holder retires or terminates employment for any reason, the facility manager must promptly notify the FAA FSSOG manager and initiate a request to invalidate the PWB and, if applicable, EFAS CA. The applicable PWB CA database at the FAA FSSOG must be updated to reflect the change, and the record must be retained for 2 years after the invalidation date. A copy of the invalidated CA may be given to retired employees as a personal keepsake.

h. Revalidating CA. The following guidelines show how to revalidate a CA for either PWB or EFAS.

(1) If the certificate has been invalid for 2 years or less, recertification can be accomplished by successfully completing an oral practical examination. Flight service facilities may contact the FAA FSSOG to schedule this examination. The FAA evaluator uses the appropriate oral evaluation sheet (appendix B or D, as appropriate) to determine the briefer's score. If a passing score of 70 points is achieved, a new CA must be issued.

(2) If a PWB certificate has been invalid for more than 2 years, recertification requires completion of all written PWB certification tests (weather analysis, satellite, and weather radar) and the oral PWB practical examination. All tests or examinations may be requested from the FAA FSSOG manager.

(3) If an EFAS certificate has been invalid for more than 2 years, recertification requires completion of both the EFAS written certification test and the oral EFAS practical examination. The test or examination may be requested from the FAA FSSOG manager.

9. Maintaining Files.

a. The FAA FSSOG maintains a current list of PWB and EFAS certificate numbers, issue dates, etc., in a computerized database format. Printed copies of the PWB and EFAS (if applicable) CA must be displayed at the facility or kept in a facility binder. This allows FAA personnel to quickly and efficiently update the Personnel and Action Item Report during a facility evaluation. A new Personnel and Action Item Report 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 after a facility evaluation.

b. Flight service facility managers must notify the FAA FSSOG immediately of any changes to their PWB and EFAS certificate records including name changes, separation from duties, retirements, and changes in flight plan briefing areas/AOR.

10. Distribution. This order is distributed to selected offices in Washington headquarters, regional offices, service area offices, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, all air traffic field facilities, international aviation field offices, and interested aviation public.

11. Related Publications.

a. FAA Order JO 7110.10, Flight Services, is the source document for the provision of Pilot Weather Briefing and En Route Flight Advisory Service.

b. Advisory Circular 00-45, Aviation Weather Services, is the source document for the use and interpretation of aviation weather products.

12. Forms and Reports.

a. FAA Form 7220-2, FAA Oral PWB Evaluation Sheet (appendix B)

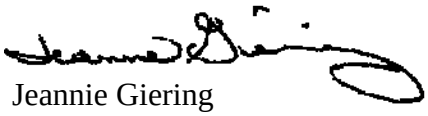
b. FAA Form 7220-3, FAA Oral EFAS Evaluation Sheet (appendix D)

c. FAA Form 7220-4, Qualification Report (appendix E)

d. International Pilot Weather Briefing Checklist (appendix F)

e. FAA Form 7220-5, Pilot Weather Briefer Certificate (appendix G)

f. FAA Form 7220-6, En Route Flight Advisory Service Certificate (appendix H)



Jeannie Giering
Director, Flight Services Program Operations
Air Traffic Organization

Date Signed

Appendix A. Pilot Weather Briefing Certification Practical Examination Standards

A-1. Pilot Weather Briefer (PWB) Authority

Federal Aviation Administration (FAA) air traffic control specialists working at FAA Flight Service Stations (FSS) and Federal Contract Flight Service Station (FCFSS) employees who have a valid PWB certificate issued by the National Weather Service (NWS) or FAA Flight Service Safety and Operations Group (FSSOG) are authorized to perform preflight and inflight pilot weather briefings under general supervision.

A-2. Prerequisites

a. The candidate must have passed the NWS or FAA weather analysis, weather radar, and weather satellite written tests within the 2 years prior to the examination.

b. The candidate must have had on-the-job training (OJT) with a certified PWB within the 6 months prior to the examination.

c. The air traffic manager or designee must request the PWB practical examination and state that the candidate is prepared to pass the examination.

A-3. Scheduling the PWB Written Certification Test and Oral PWB Practical Examination

a. Facilities wishing to schedule a written test or oral examination must send a request to the FSSOG at the following address: 9-AJR-FSSOG@faa.gov. Requests for both written tests and oral practical examinations must be made at least 1 week in advance.

b. Facilities must supply FSSOG with a point of contact (name, email, and telephone) available during normal administrative business hours and an email address to which qualification reports and certificates of authority will be sent.

c. Requests for written tests must contain the following information:

(1) Name of candidate.

(2) Written test required.

(3) A statement from the facility manager or designee attesting to the candidate’s completion of all prerequisite study and readiness to take the test.

d. Requests for oral practical examinations must contain the following information:

(1) Name of candidate.

(2) Type of examination requested and applicable flight plan area (FPA).

(3) Date/UTC requested for examination.

A-4. Format of the Oral PWB Practical Examination

a. The practical examination will consist of two preflight standard weather briefings.

(1) One standard briefing will be for a visual flight rules (VFR) or instrument flight rules (IFR) flight below FL240.

(2) One standard briefing will be for an IFR flight above FL240.

b. Both of the weather briefings will be for flights departing from airports within the candidate's FPA/area of responsibility (AOR). However, the destination airport may be any airport.

c. Facilities with international AORs will have at least one contact within the international area.

d. The candidate:

(1) Must obtain all the required background information for the proposed flight.

(2) Must ensure the evaluator is aware of all pertinent adverse weather conditions.

(3) Must provide accurate weather information to the evaluator and use the most current weather information and forecasts.

(4) Will summarize when appropriate and interpret weather data and forecasts rather than reading information verbatim.

(5) Will provide the information in a logical sequence.

(a) Gather appropriate background information.

(b) Provide a synopsis.

(c) Ensure the evaluator is aware of all pertinent adverse conditions.

(d) Provide a "VFR flight is not recommended" (VNR) statement if appropriate.

(e) Provide current weather conditions.

(f) Provide forecast weather conditions, including the variance between NWS forecasts and current conditions.

(g) Provide winds and temperatures aloft.

(h) Provide notices to airmen (NOTAM).

e. The horizontal limits of pertinent weather and aeronautical information and adverse conditions are normally considered to be 25 nautical miles either side of the proposed route. When determining the pertinence of information, the candidate will take into account the dynamic aspect of weather and aircraft speed. Adverse conditions and weather information observed or forecasted to occur more than 25 nautical miles from the route should be provided if there is a potential for safety of flight to be compromised.

f. The vertical limits of pertinent weather information and adverse conditions are normally considered to be:

(1) The climb out and approach path.

(2) For flights below FL180, from the surface to 5,000 feet above the proposed en route altitude.

(3) For flights at or above FL180, 5,000 feet above and below the proposed en route altitude.

A-5. Weather Situational Awareness

a. The preflight/inflight PWB position must be ready at any time to receive a request for weather information which may affect the safe outcome of the flight. Therefore, a specialist must be aware of current and forecast weather for large parts of the United States and some international airspace and airports.

b. This weather situational awareness is obtained by reviewing pilot reports (PIREP), weather radar products, satellite images, and weather observations and forecasts, and maintained by updating weather information.

c. PWB specialists must:

(1) Be skilled in quickly reviewing large amounts of weather data and accurately summarizing and interpreting this data verbally to a pilot.

(2) Have a working knowledge of the operational interpretation of weather radar and satellite images and should understand the strengths and limitations of all weather data sources and NWS forecasts.

(3) Be able to filter weather data, forecasts, and hazardous weather information and not give extraneous data to the pilot.

A-6. Grading Guidelines

a. Grading guidelines for each category are outlined within each of the specific tasks for the category.

TBL A-1
Point Distribution

Task	Points	Paragraph
Background Information	5	A-8
VNR Statement/ Adverse Conditions	30	A-9
IFR		A-10
Mountain Obscurations		A-11
Thunderstorms		A-12
Icing		A-13
Turbulence		A-14
Volcanic Ash		A-15
Dust/Sand Storms		A-16
Tropical Cyclone		A-17
High Density Altitude		A-18
Low-Level Wind Shear		A-19
Strong Low-Level Winds		A-20
Adverse Aeronautical Information		A-21
Synopsis	5	A-22
Current Conditions	20	A-23
Forecast Conditions	20	A-24
Quality Factors	20	A-25

b. The minimum passing score is 70 points.

c. If a PWB candidate fails to inform the evaluator about any individual adverse condition, 30 points will be deducted. Partial information about any individual adverse condition will result in point deductions as specified in the guidelines associated with each adverse condition.

d. If a passing score of 70 points or greater is achieved on the PWB oral practical examination then:

(1) FAA Form 7220-4, Qualification Report, will be sent electronically to the candidate's FSS manager.

(2) FAA Form 7220-5, Pilot Weather Briefer Certificate, will be sent electronically to the candidate's FSS manager.

(3) Immediately following the debriefing of the oral practical examination, the PWB candidate is certified to perform PWB duties under general supervision.

e. If a failing score of fewer than 70 points is achieved on the PWB oral practical examination then:

(1) FAA Form 7220-4, Qualification Report, will be sent electronically to the candidate's FSS manager.

(2) The candidate will not be certified to perform PWB duties and must continue in a training status.

(3) Facility training should be conducted to the facility manager's satisfaction before the briefer retakes the examination. A retake may not be scheduled sooner than 3 business days following the date of failure, unless approved by the FSSOG manager.

A-7. Debriefing

a. Within approximately 1 hour of the conclusion of the oral PWB practical examination, the FAA evaluator will call the FSS and conduct a debriefing. The debriefing may be with the operations manager, candidate, candidate's supervisor, facility training specialist, and/or OJT instructor, depending upon their availability.

b. The debriefing will be conducted by the FAA evaluator, along with any other FAA evaluator participating in the evaluation of the practical examination and possibly the FSSOG manager.

c. The debriefing will include:

(1) A statement that the candidate passed or failed the practical examination.

(2) A review of the two briefings including departure airport, altitudes, routes, destinations, estimated time of departure (ETD), estimated time of arrival (ETA), questions asked, etc.

(3) A review of what the candidate did well and what areas needed improvement.

(4) A summarization of the procedures to follow after a passing or failing score.

d. The FSS management, training staff, and candidate should listen to the recorded practical examination before the debriefing.

A-8. Background Information Task

a. Objective: The following background information will be obtained:

(1) Type of flight – IFR or VFR

(2) Aircraft identification

(3) Aircraft type

(4) Departure airport

(5) Estimated time of departure

(6) En route altitude

(7) Route of flight

(8) Destination airport

(9) Estimated time en route (ETE) or the ETA at the destination.

b. Grading Guidelines:

(1) No points are deducted if all background information is obtained by the PWB candidate for both standard weather briefings.

(2) 1 point is deducted for each of the above not obtained by the PWB candidate up to a maximum of 5 points.

A-9. VNR Statement Task

a. Objective: To determine that the PWB candidate:

(1) When VFR flight is proposed and sky conditions or visibilities are present or forecast, surface or aloft, that in the briefer's judgment would make flight under visual flight rules doubtful, the briefer will describe the conditions, affected locations, and advises the evaluator that VFR flight is not recommended.

(2) Correctly uses the following products, as appropriate, to determine current and forecast areas of IFR conditions along the proposed route of flight:

(a) Meteorological aviation routine weather reports (METAR)

(b) Satellite

(c) Radar

(d) PIREPs

(e) Airmen's meteorological information (AIRMET) Sierra

(f) Terminal area forecasts (TAF)

(g) Center weather advisories (CWA)

(3) Exhibits sound briefer judgment when a VFR flight is planned and gives a VNR statement when flight under VFR is doubtful.

(4) Provides a VNR statement in the Caribbean based on ceilings less than 1,500 feet and/or visibilities less than 5 statute miles.

(5) Does not provide a VNR statement when conditions along the route are expected to be marginal VFR or better.

(6) Provides VFR alternatives when a VNR statement is issued, if possible.

b. Grading Guidelines:

(1) No points are deducted when an applicable VNR statement is given.

(2) 30 points are deducted when data indicated VFR flight was doubtful and a VNR statement was not given.

(3) 1-4 points are deducted if a VNR statement was given, but data indicated VFR flight was likely.

(4) Up to 4 points are deducted if a VNR statement was given, but no alternate VFR routing was provided.

A-10. IFR Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions where IFR is most likely to occur.

(2) Exhibits knowledge of the hazard of attempting VFR flight into IFR conditions and the increased hazard to IFR flights operating in instrument meteorological conditions.

(3) Correctly uses the following products, as appropriate, to determine current and forecast areas of IFR conditions along the proposed route of flight:

(a) METARs

(b) Satellite

(c) Radar

(d) PIREPs

(e) AIRMET Sierra

(f) TAFs

(g) CWAs

(4) For flights below FL180, provides applicable IFR adverse condition information for departure, en route, and destination

(5) Correctly provides the evaluator complete and accurate information on IFR conditions along the proposed route of flight, including:

(a) Location

(b) Time

(c) Horizontal extent

(d) Trend (past and forecast)

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on the adverse condition applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast adverse condition applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the adverse condition was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the adverse condition was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-11. Mountain Obscurations Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions where mountain obscuration is most likely to occur.

(2) Exhibits knowledge of the hazard of flying VFR or IFR in areas where the mountains are obscured by weather.

(3) Correctly uses the following products, as appropriate, to determine areas where mountains are obscured along the proposed route of flight:

(a) METARs

(b) Satellite

(c) Radar

(d) PIREPs

(e) AIRMET Sierra

(f) TAFs

(g) CWAs

(4) Correctly provides the evaluator complete and accurate information on IFR conditions along the proposed route of flight, including:

(a) Location

(b) Time

(c) Horizontal extent

(d) Trend (past and forecast)

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on the mountain obscuration applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast mountain obscuration applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the mountain obscuration was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the mountain obscuration was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-12. Thunderstorms Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive for thunderstorm development.

(2) Exhibits knowledge of thunderstorm types, structure, development, movement, and associated aviation hazards.

(3) Correctly uses the following products, as appropriate, to determine current and forecast areas of thunderstorm activity along the proposed route of flight:

(a) Radar/lightning data

(b) Satellite

(c) METARs

(d) PIREPs

(e) Convective significant meteorological information (SIGMET) (WST)/WST outlook

(f) TAFs

(g) Area forecasts

(h) High and Low level significant weather prognosis charts

(i) Severe thunderstorm/tornado watches

(4) Correctly provides the evaluator complete and accurate thunderstorm information applicable to the proposed route of flight including:

(a) Coverage

(b) Trend

(c) Type

(d) Intensity

(e) Tops

(f) Movement

(5) Correctly uses the following, as appropriate, to supplement thunderstorm information:

(a) National Convective Weather Forecast (NCWF) if available

(b) Severe thunderstorm/tornado warnings

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate thunderstorm information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast thunderstorm information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the thunderstorms was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the thunderstorms was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-13. Icing Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to icing.

(2) Exhibits knowledge of icing as a hazard to aircraft and the effect of icing on aircraft in flight.

(3) Correctly uses the following products for information:

(a) SIGMETs for severe icing

(b) AIRMET Zulu for moderate icing

(c) CWAs

(d) PIREPs of ice, temperature, clouds, and precipitation

(4) Correctly uses the following, as appropriate, to supplement current and forecast ice information:

(a) Current icing product (CIP)

(b) Freezing level graphics

(5) Correctly provides the evaluator with complete and accurate icing information applicable to the proposed flight including:

(a) Freezing level

(b) Temperature

(c) Vertical extent/Altitude

(d) Horizontal extent

(e) Trend

(f) Time

(g) Intensity

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate icing information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast icing information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the icing was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the icing was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-14. Turbulence Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to turbulence development.

(2) Exhibits knowledge of turbulence as a hazard to aircraft and the effects of turbulence on aircraft in flight.

(3) Correctly uses the following products, as appropriate, to determine turbulence intensities and location:

(a) Turbulence SIGMETs

(b) AIRMET Tango

(c) CWAs

(d) PIREPs

(e) Satellite

(f) Radar

(g) METARs

(h) Area forecasts

(4) Correctly provides the evaluator with complete and accurate turbulence information applicable to the proposed flight including:

(a) Intensity

(b) Location

(c) Vertical extent/altitudes

(d) Horizontal extent

(e) Time

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate turbulence information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast turbulence information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the turbulence was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the turbulence was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-15. Volcanic Ash Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of volcanic ash as a hazard to aircraft and the effects of volcanic ash on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to determine volcanic ash intensities and location:

(a) Volcanic ash SIGMETs

(b) Volcanic ash advisories

(c) PIREPs

(d) Satellite

(e) Radar

(f) METARs/Special METARs (SPECI)

(g) TAFs

(h) Significant weather prognosis charts

(i) ATCSCC messages

(3) Correctly provides the evaluator with complete and accurate volcanic ash information applicable to the proposed flight including:

(a) Horizontal extent/altitudes

(b) Vertical extent

(c) Movement

(d) Time

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate volcanic ash information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast volcanic ash information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the volcanic ash was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the volcanic ash was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-16. Dust/Sand Storm Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to dust/sand storm development.

(2) Exhibits knowledge of the hazards to aircraft flying in and around dust/sand storms and the effects on aircraft in flight.

(3) Correctly uses the following products, as appropriate, for information regarding dust/sand storms:

(a) SIGMETs

(b) PIREPs

(c) Satellite

(d) Radar

(e) METARs (Blowing Dust (BLDU), Blowing Sand (BLSA), Dust (DU))

(f) TAFs

(4) Correctly provides the evaluator with complete and accurate icing information applicable to the proposed flight including:

(a) Horizontal extent

(b) Vertical extent

(c) Intensity

(d) Time

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate dust/sand storm information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast dust/sand storm information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the dust/sand storm was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the dust/sand storm was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-17. Tropical Cyclone Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to the development and persistence of tropical cyclones.

(2) Exhibits knowledge of the hazards to aircraft flying in and around tropical cyclones.

(3) Correctly uses the following products, as appropriate, to determine the location, horizontal and vertical extent, and movement of tropical cyclones and associated hazards:

(a) SIGMETs

(b) AIRMETs

(c) Tropical cyclone/hurricane advisories

(d) PIREPs

(e) Satellite

(f) Radar

(g) METARs

(h) TAFs

(i) Area Forecasts

(j) Significant weather prognosis charts

(4) Correctly provides the evaluator with complete and accurate tropical cyclone information applicable to the proposed flight including:

(a) Horizontal extent

(b) Vertical extent

(c) Intensity

(d) Time

(e) Movement

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate tropical cyclone information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast tropical cyclone information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the tropical cyclone was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the tropical cyclone was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-18. High Density Altitude Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to high density altitude.

(2) Exhibits knowledge of the hazard to aircraft flying in high density altitude conditions with lower-than-standard atmosphere altimeter settings (29.92) and higher-than-standard atmospheric temperatures.

(3) Exhibits knowledge that aircraft service ceilings are based on density altitude when briefing aircraft flying over mountains or through mountain passes.

(4) Exhibits knowledge of increased runway lengths required for takeoffs and landings and decreased climb performance with high density altitude conditions.

(5) Correctly uses the following products, as appropriate, to determine turbulence intensities and location:

(a) METARs

(b) PIREPs

(c) Temperature aloft forecasts

(6) Provides the evaluator with high density altitude information and provides information to minimize the threat. (See TBL A-2.)

TBL A-2
High Density Altitude Information

Field Elevation (MSL)	High Density Altitude Temperature Threshold (Celsius)		Standard Atmosphere	
			Altitude (MSL)	Temperature (Celsius)
2,000 - 2,999	29 or higher		2,000	11
3,000 - 3,999	27 or higher		3,000	9
4,000 - 4,999	24 or higher		4,000	7
5,000 - 5,999	21 or higher		5,000	5
6,000 - 6,999	18 or higher		6,000	3
7,000 - 7,999	16 or higher		7,000	1

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate high density altitude information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast high density altitude information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the high density altitude was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the high density altitude was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-19. Low-Level Wind Shear Hazard Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to low-level wind shear.

(2) Exhibits knowledge of the impact to aircraft departing or landing in low-level wind shear conditions.

(3) Correctly uses the following products for information on low-level wind shear:

(a) AIRMET Tango

(b) PIREPs

(c) Velocity Azimuth Display (VAD) wind profiles

(d) Base reflectivity (0.5 degree) radar products

(e) TAFs

(f) Satellite

(4) For flights below FL180, provides low-level wind shear information for departure, en route, and destination and as appropriate.

(5) For flights at or above FL180, provides low-level wind shear information for departure and destination.

(6) Correctly provides the evaluator with complete and accurate low-level wind shear information applicable to the proposed flight including:

(a) Horizontal Extent

(b) Vertical Extent

(c) Time

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate low-level wind shear information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast low-level wind shear information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the low-level wind shear was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the low-level wind shear was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-20. Strong Low-Level Winds Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits knowledge of the meteorological conditions conducive to strong low-level winds.

(2) Exhibits knowledge of the impact to aircraft departing or landing in strong low-level wind conditions.

(3) Correctly uses the following products, as appropriate, to determine the threat of strong low-level winds:

(a) AIRMET Tango

(b) PIREPs

(c) VAD wind profiles

(d) Base reflectivity (0.5 degree) radar products

(e) METARs

(f) TAFs

(g) Area forecasts

(4) For flights below FL180, provides strong low-level wind information for departure, en route, destination, and for all altitudes below the proposed altitude as appropriate.

(5) For flights at or above FL180, provides strong low-level wind information for departure and destination.

(6) Correctly provides the evaluator with complete and accurate information on the strong low-level winds:

(a) Location

(b) Vertical Extent

(c) Time

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate strong low-level wind information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast strong low-level wind information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate information concerning the strong low-level wind was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning the strong low-level wind was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-21. Adverse Aeronautical Information Task

a. Objective: To determine that the PWB candidate:

(1) Provides NOTAMs that could influence the evaluator to alter the proposed flight; for example, airport/runway closures.

(2) Provides air traffic delays/airspace restrictions that could influence the evaluator to alter the proposed flight; for example, temporary flight restrictions, restricted or prohibited areas, special flight rules zone.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete adverse aeronautical information applicable to the proposed route of flight.

(2) 30 points are deducted if the candidate fails to provide the existing or forecast adverse aeronautical information applicable to the proposed route of flight.

(3) 10-25 points are deducted if partial or inaccurate adverse aeronautical information was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate adverse aeronautical information was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

A-22. Synopsis Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits sound meteorological knowledge of:

(a) Fronts

(b) Air mass type

(c) Pressure patterns at surface and aloft

(2) Correctly uses the following products, as appropriate, to summarize weather information to the evaluator:

(a) Surface analysis

(b) Area forecast synopsis

(c) Satellite

(d) Radar

(e) Significant weather chart

(f) Surface prognosis chart

(g) Aviation forecast discussion

(h) Upper air analysis charts

(3) Provides the evaluator with an accurate overview of weather features impacting the route of flight, including:

(a) Location and movement of fronts

(b) Air mass type, including moisture and stability

(c) Pressure patterns, surface and aloft

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate synopsis information applicable to the proposed route of flight.

(2) 5 points are deducted if the candidate fails to provide the evaluator with a synopsis for either of the two standard weather briefings.

(3) 1-5 points are deducted if the candidate provides incomplete or inaccurate synopsis information.

A-23. Current Conditions Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits sound meteorological knowledge of weather data for providing current conditions applicable to the proposed route of flight.

(2) Correctly uses the following products, as appropriate, to provide current conditions along the route of flight:

(a) METARs

(b) PIREPs

(c) Satellite

(d) Radar

(3) Correctly provides the evaluator with the departure airport METAR or closest available METAR.

(4) Correctly provides the evaluator with an accurate and concise summary, when appropriate, of the following current/recent past en route weather conditions:

(a) Clouds

(i) Coverage

(ii) Trend

(iii) Tops

(iv) Type

(b) Visibility and associated restrictions/weather

(c) Precipitation

(i) Coverage

(ii) Trend

(iii) Intensity

(iv) Tops

(v) Type

(vi) Movement

(5) Correctly provides the evaluator with the destination airport METAR or closest available METAR.

NOTE-
NOTAMs that could influence the evaluator to alter the flight will be evaluated under Adverse Conditions.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on current conditions applicable to the proposed route of flight.

(2) 20 points are deducted if the candidate fails to provide the evaluator with current conditions for either of the two standard weather briefings.

(3) Up to 20 points are deducted if the candidate provides incomplete or inaccurate current conditions.

A-24. Forecast Conditions Task

a. Objective: To determine that the PWB candidate:

(1) Exhibits sound meteorological knowledge of NWS forecast products.

(2) Correctly uses the following products, as appropriate, to provide forecast conditions along the route of flight:

(a) Area forecasts

(b) TAFs

(c) Surface prognosis charts

(d) Low/high-level significant weather prognosis charts

(3) Correctly provides the evaluator with the departure airport TAF, or applicable forecast, including forecast conditions for climb out.

(4) Correctly provides the evaluator with an accurate and concise summary, when appropriate, of the following elements forecast along the proposed route of flight:

(a) Clouds

(i) Coverage

(ii) Trend

(iii) Tops

(iv) Type

(b) Visibilities and associated restrictions/weather

(c) Precipitation

(i) Coverage

(ii) Tops

(iii) Type

(iv) Movement

(5) Correctly provides the evaluator with the destination airport TAF, including forecast conditions for descent.

(6) Correctly provides winds and temperatures aloft.

(7) Provides when appropriate the variance between NWS forecasts and current conditions.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on forecast conditions applicable to the proposed route of flight.

(2) 20 points are deducted if the candidate fails to provide the evaluator with forecast conditions for either of the two standard weather briefings.

(3) Up to 20 points are deducted if the candidate provides incomplete or inaccurate forecast conditions.

A-25. Quality Factors Task

a. Objective: To determine that the PWB candidate:

(1) Conveys competence. Possesses and projects comprehensive knowledge that includes but is not limited to:

(a) Principles of meteorology

(b) Aviation weather products

(c) Weather impacts on aircraft operations

(d) NAS operations

(e) Aircraft types and associate flight characteristics

(2) Uses an adequate pace and voice.

(a) An adequate pace varies according to the information being provided; for example, speech rate when describing fronts and pressure systems may be faster than the rate when reading specific observations upon request.

(b) An adequate voice is loud enough to be easily understood yet does not cause the listener to hold the phone away from his/her ear.

(3) Is courteous and professional.

(a) Uses polite and respectful language.

(b) Uses standard phraseology.

(4) Follows a logical sequence.

(a) The briefing order in FAA Order JO 7110.10 provides guidance on logical sequence.

(b) The sequence of first three items (VNR statement, adverse conditions, synopsis) may be adjusted for emphasis or logic per FAA Order JO 7110.10.

(5) Provides an accurate weather picture.

(a) Weather symbols and textual contractions are correctly decoded and explained.

(b) Geographic features and political boundaries are correctly described.

(6) Conveys information clearly.

(a) Differentiates between AGL and MSL when appropriate.

(b) Uses standard phraseology and meteorological terms.

(c) Avoids slang and informal speech.

(7) Conveys information concisely.

(a) Information provided only relates to the route, altitude, and duration of flight.

(b) Translates, interprets, and summarizes.

(8) Anticipates the evaluator's needs for specific weather information. These needs vary with:

(a) Evaluator experience.

(b) Aircraft equipage.

(c) Flight rules.

(9) Answers the evaluator's questions.

(10) Exhibits knowledge of the topographic effects on weather.

(a) Effect of water surfaces on development of precipitation and low clouds.

(b) Upslope winds and adiabatic cooling.

b. Grading Guidelines:

(1) No points are deducted if all of the quality factors are completely met.

(2) 1-20 points are deducted based on the number and severity of the quality factors deficiencies demonstrated by the candidate.

Appendix B. FAA Form 7220-2, FAA Oral PWB Evaluation Sheet

FAA ORAL PWB EVALUATION SHEET			Briefer
Type of Eval	Date/Time	Station	Evaluator
FPA	Test Scores	Sup. POC	
Route-Low Level	Route – High Level		Debrief Phone #

1. Background Information	Max Score	Score	2. Briefing Content	Max Score	Score	3. Quality Factors	Max Score	Score
Type of Flight Aircraft ID Aircraft Type Departure Point Route of Flight Destination Altitude Time of Departure Time En Route	5		Adverse Conditions	30		Conveys competence Adequate pace and voice Courteous and professional Logical sequence Ability to provide accurate weather picture Information conveyed clearly Information conveyed concisely Ability to anticipate pilot's needs Answers evaluator's questions Topographic effects on weather	20	
			Synopsis	5				
			Current Conditions	20				
			Forecast Conditions	20				
Score	5		Score	75		Score		

MINIMUM PASSING SCORE = 70% SCORE FOR THIS EVALUATION

BREAKDOWN INFORMATION

Background Information	
Briefing Content	
Adverse Conditions	
Synopsis	
Current Conditions	
Forecast Conditions	
Quality Factors	
Debrief Notes	
Debrief Participants	

FAA Form 7220-2 (10-12) Electronic Version

Appendix C. En Route Flight Advisory Service Certification Practical Examination Standards

C-1. En Route Flight Advisory Service Authority

Employees working at Federal Contract Flight Service Stations (FCFSS) who have a valid En Route Flight Advisory Service (EFAS) certificate issued by the National Weather Service (NWS) or Federal Aviation Administration (FAA) Flight Service Safety and Operations Group (FSSOG) are authorized to perform EFAS duties under general supervision.

C-2. Prerequisites

The candidate must have:

a. A valid NWS or FAA Pilot Weather Briefer Certificate.

b. Worked as a PWB for the 2 years prior to the examination.

c. Passed the EFAS written certification test within the 2 years prior to the examination.

d. Had on-the-job training (OJT) with a NWS- or FAA-certified EFAS briefer in the 6 months prior to the examination.

C-3. Scheduling the EFAS Written Certification Test and Oral EFAS Practical Examination

a. Facilities wishing to schedule a written test or oral examination must send a request to the FSSOG at the following address: 9-AJR-FSSOG@faa.gov. Requests for oral practical examinations must be made at least 1 week in advance.

b. Facilities must supply FSSOG with a point of contact (name, email, and telephone) available during normal administrative business hours and an email address to which qualification reports and certificates of authority will be sent.

c. Requests for written tests must contain the following information:

(1) Name of candidate.

(2) Written test required.

(3) A statement from the facility manager or designee attesting to the candidate’s completion of all prerequisite study and readiness to take the test.

d. Requests for oral practical examinations must contain the following information:

(1) Name of candidate.

(2) Type of examination requested and applicable EFAS area.

(3) Date/UTC requested for examination.

C-4. Format of the EFAS Certification Practical Examination

a. The practical examination will consist of four simulated EFAS contacts from an aircraft in flight.

b. The EFAS contacts will initiate from within the candidate’s flight watch area of responsibility. However, the request for information can be for data outside of the assigned flight watch area.

c. Facilities with international areas of responsibility will have at least one contact within the international area.

d. The candidate:

(1) Must obtain all the required background information for the proposed flight.

(2) Must ensure the pilot (evaluator) is aware of all pertinent weather hazard information.

(3) Must accurately answer the pilot's (evaluator's) request for information.

(4) Will request pilot weather reports (PIREP) as appropriate.

(5) Will provide the information in a logical sequence.

(a) Gather appropriate background information.

(b) Ensure the pilot (evaluator) is aware of all pertinent adverse conditions.

(c) Provide a "VFR flight is not recommended" (VNR) statement if appropriate.

(d) Answer the pilot's request for data.

(e) Request PIREPs, as appropriate.

f. The horizontal limits of pertinent weather and adverse conditions are normally considered to be 25 nautical miles either side of the proposed route. When determining the pertinence of information, the candidate should take into account the dynamic aspect of weather and aircraft speed. Adverse conditions and weather information observed or forecasted to occur more than 25 nautical miles from the route should be provided if there is a potential for safety of flight to be compromised.

g. The vertical limits of pertinent weather information and adverse conditions are normally considered to be:

(1) The climb out and approach path.

(2) For flights below FL180, from the surface to 5,000 feet above the proposed en route altitude.

(3) For flights at or above FL180, 5,000 feet above and below the proposed en route altitude.

C-5. Weather Situational Awareness

a. The specialist working the EFAS position must be ready at any time to answer a pilot's urgent request for weather information which may affect the safe outcome of the flight. Therefore, the EFAS specialist must maintain the highest level of weather situational awareness and should possess the highest level of briefing skills.

b. A high level of weather situational awareness is achieved by:

(1) Having expert knowledge of all weather products used on the flight watch position.

(2) Understanding the strengths and limitations of the products.

(3) Continually monitoring all pertinent current and forecast weather products.

c. EFAS specialists:

(1) Will have an accurate picture of the current weather, short-term weather trends, and differences between current conditions and forecasts within their flight watch area.

(2) Must be concerned with the length of time to provide weather information during the flight watch contact. The time the pilot is aware from air traffic control frequencies while talking to flight watch will be minimized.

(3) Must consider and use all appropriate weather data to formulate a proper response to a pilot request for data or to inform the pilot of hazardous weather.

(4) Must be able to integrate all appropriate data sources and verbalize a concise and accurate weather picture to the pilot.

C-6. Grading Guidelines

a. Grading guidelines for each category are outlined within each of the specific tasks for the category.

TBL C-1
Point Distribution

Task	Points	Paragraph
Background Information	15	C-8
Obtaining Pilot Request	5	C-9
VNR Statement/ Adverse Conditions	45	C-10
IFR		C-11
Mountain Obscurations		C-12
Continued VFR-into-IMC		C-13
VFR-on-Top		C-14
Thunderstorms		C-15
Icing		C-16
Turbulence		C-17
Volcanic Ash		C-18
Dust/Sand Storms		C-19
Tropical Cyclone		C-20
High Density Altitude		C-21
Non-Convective Low-Level Wind Shear		C-22
Strong Low-Level Winds		C-23
Answering Pilot Request	15	C-24
Quality Factors	20	C-25

b. The minimum passing score is 70 points.

c. If an EFAS candidate fails to inform the pilot (evaluator) about any adverse condition, 30 points will be deducted. Partial information about any individual adverse condition will result in point deductions as specified in the guidelines associated with each adverse condition.

d. If a passing score of 70 pints or greater is achieved on the oral EFAS practical examination then:

(1) FAA Form 7220-4, Qualification Report, will be sent electronically to the candidate's FSS manager.

(2) FAA Form 7220-6, En Route Flight Advisory Service Certificate, will be sent electronically to the candidate's FSS.

(3) Immediately following the debriefing of the practical examination, the EFAS candidate is certified to perform EFAS duties under general supervision.

e. If a failing score of fewer than 70 points is achieved on the EFAS practical examination then:

(1) FAA Form 7220-4, Qualification Report, will be sent electronically to the candidate's FSS manager.

(3) Facility training should be conducted to the facility manager's satisfaction before the briefer retakes the examination. A retake may not be scheduled sooner than 3 business days following the initial examination.

C-7. Debriefing

a. Within 1 hour of the conclusion of the EFAS practical examination, the FAA evaluator will call the FSS and conduct a debriefing. The debriefing may be with the operations manager, candidate, candidate's supervisor, facility training specialist and/or OJT instructor, depending upon their availability.

b. The debriefing will be conducted by the FAA evaluator, along with any other FAA evaluator participating in the evaluation of the oral practical examination and possibly the FSSOG manager.

c. The debriefing will include:

(1) The score of the EFAS practical examination.

(2) A review of the four pilot contacts.

(3) A review of what the candidate did well and what areas needed improvement.

(4) A summarization of the procedures to follow as a result of the oral practical examination.

d. The FSS management, training staff, and candidate should listen to the recorded oral practical examination prior to the debriefing.

C-8. Background Information Task

a. Objective: To determine that the EFAS candidate obtains the following background information:

(1) Aircraft identification

(2) Aircraft type

(3) Current location of the aircraft

(4) Current altitude of the aircraft

(5) Destination of the aircraft

(6) Estimated time of arrival at the destination.

(7) Route of flight

(8) Type of flight – instrument flight rules (IFR) or visual flight rules (VFR)

b. Grading Guidelines:

(1) No points are deducted if all background information is obtained by the EFAS candidate for all four contacts.

(2) 2 points are deducted for each of the above not obtained by the EFAS candidate up to a maximum of a 15-point deduction.

C-9. Obtaining Pilot Request Task

a. Objective: To determine that the EFAS candidate obtains:

(1) Evaluator's request for information.

(2) Type of weather information requested.

(3) Location of the weather information requested.

(4) Time of the weather information requested.

b. Grading Guidelines:

(1) No points are deducted if all necessary information was obtained by the EFAS candidate to answer the evaluator's request.

(2) 5 points are deducted if the EFAS candidate failed to obtain the evaluator's request for information.

(3) 1-4 points are deducted if the candidate obtained only partial information needed to answer the evaluator's request.

C-10. VNR Statement Task

a. Objective: To determine that the EFAS candidate:

(1) Correctly uses the following products, as appropriate, to determine current and forecast areas of IFR conditions along the proposed route of flight:

(a) Meteorological aviation routine weather reports (METAR)

(b) Satellite

(c) Radar

(d) Pilot reports (PIREP)

(e) Airmen's meteorological information (AIRMET) Sierra

(f) Terminal area forecasts (TAF)

(g) Center weather advisories (CWA)

(2) Exhibits sound briefer judgment to give a VNR statement when flight under VFR is doubtful.

(3) Provides a VNR statement in the Caribbean based on ceilings less than 1,500 feet and/or visibilities less than 5 statute miles.

(4) Does not provide a VNR statement when conditions along the route are expected to be marginal VFR or better.

(5) Suggests routing to a VFR alternate when a VNR statement is issued.

b. Grading Guidelines:

(1) No points are deducted when an applicable VNR statement is given.

(2) 30 points are deducted when data indicated VFR flight was doubtful and a VNR statement was not given.

(3) 1-4 points are deducted if a VNR statement was given, but data indicated VFR flight was likely.

(4) Up to 4 points are deducted if a VNR statement was given, but no alternate VFR routing was provided.

C-11. IFR Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of the hazard of attempting VFR flight into IFR conditions and the increased hazard to IFR flights operating in instrument meteorological conditions (IMC).

(2) Correctly uses the following products, as appropriate, to determine current and forecast areas of IFR conditions along the proposed route of flight:

(a) METARs

(b) Satellite

(c) Radar

(d) PIREPs

(e) AIRMET Sierra

(f) TAFs

(g) CWAs

(3) For a VFR flight or any flight operating below FL180, suggests an adequate alternate when en route or destination conditions are expected to be below standard VFR minimums.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on the IFR hazard, including alternative routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information concerning an IFR hazard.

(3) 10-25 points are deducted if partial or inaccurate information concerning an IFR hazard was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning an IFR hazard was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if the destination was below minimums, but no alternate destination was suggested.

C-12. Mountain Obscurations Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of the hazard of flying VFR or IFR in areas where the mountains are obscured.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast areas of mountain obscurations and trends along the route of flight:

(a) METARs

(b) Satellite

(c) Radar

(d) PIREPs

(e) AIRMET Sierra

(f) TAFs

(g) CWAs

(3) Provides evaluator an adequate alternate routing and/or destination when appropriate

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on a mountain obscuration, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information concerning a mountain obscuration.

(3) 10-25 points are deducted if partial or inaccurate information concerning a mountain obscuration was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning a mountain obscuration was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if a mountain obscuration existed, but no alternate routes, altitudes, and/or destinations were suggested.

C-13. Continued VFR-into-IMC Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge that a flight at a particular altitude may encounter IMC when conditions at different altitudes may be VFR.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current location(s) of cloud layers and tops and their trends along the route of flight:

(a) METARs

(b) Satellite

(c) Radar

(d) PIREPs

(e) AIRMET Sierra

(f) TAFs

(g) CWAs

(3) States that a change in altitude or rerouting will permit the flight to continue in visual meteorological conditions (VMC) to the destination when appropriate.

(4) Suggests an alternate if VMC flight to the destination is not possible or likely.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on an existing VFR-into-IMC hazard, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) No points are deducted when the candidate appropriately stated, when a VFR-into-IMC hazard existed, that no viable alternate routes and/or altitudes would allow continued VFR flight to the destination. The candidate must also have provided a VNR statement along with a suggestion to deviate to a VFR alternate airport.

(3) 30 points are deducted if the candidate fails to provide information concerning an existing VFR-into-IMC hazard.

(4) 10-25 points are deducted if partial or inaccurate information concerning a VFR-into-IMC hazard was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if partial or inaccurate information concerning a VFR-into-IMC hazard was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(6) Up to 10 points are deducted if information concerning a VFR-into-IMC hazard was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-14. VFR-on-Top Task

a. Objective: To determine that the EFAS candidate:

(1) Recognizes when a VFR-on-top hazard exists.

(2) Exhibits knowledge of the hazard of a VFR pilot flying on top of a broken to overcast cloud layer.

(3) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current location(s) of cloud layers and tops and their trends along the route of flight:

(a) METARs

(b) Satellite

(c) Radar

(d) PIREPs

(e) AIRMET Sierra

(f) TAFs

(g) CWAs

(4) Suggests alternative routes, altitudes and/or destinations so a VFR route of flight, descent, and landing can be made within the range capabilities of the aircraft.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on a VFR-on-top hazard, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information to maintain VFR to the destination or alternate airport when a VFR-on-top hazard existed.

(3) 10-25 points are deducted if partial or inaccurate information concerning a VFR-on-top hazard was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) 10-25 points are deducted if the pilot was not given suggestions on how to exit the VFR-on-top conditions and maintain VFR to the destination or alternate airport.

(5) Up to 10 points are deducted if partial or inaccurate information concerning a VFR-on-top hazard was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

C-15. Thunderstorms Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge thunderstorms as an aviation hazard, the three ingredients necessary for thunderstorm development, thunderstorm types, thunderstorm movement, and their effects on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to determine current and forecast areas of thunderstorm activity along the proposed route of flight:

(a) Radar/lightning data

(b) Satellite

(c) METARs

(d) PIREPs

(e) Convective significant meteorological information (SIGMET) (WST)/WST outlook

(f) TAFs

(g) Area forecasts

(h) Significant weather prognosis charts

(i) Severe thunderstorm/tornado watch bulletins

(j) CWAs

(3) Correctly uses the following, as appropriate, to supplement thunderstorm information:

(a) National Convective Weather Forecast (NCWF)

(b) Severe thunderstorm/tornado warnings

(4) Suggests alternate routes, altitudes, and/or alternates to avoid or minimize the thunderstorm hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on a thunderstorm, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on a thunderstorm.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on a thunderstorm, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on a thunderstorm.

(3) 10-25 points are deducted if partial or inaccurate information concerning a thunderstorm was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning a thunderstorm was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning a thunderstorm was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-16. Icing Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of icing as a hazard, the types of structural icing, meteorological conditions in which it is most likely to occur, and its effects on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast locations, altitudes, and intensity of ice producing clouds along the route:

(a) METARs

(b) PIREPs of ice, temperature, clouds, and precipitation

(c) Satellite

(d) Radar

(e) SIGMETs for severe icing

(f) AIRMET Zulu for moderate icing

(g) CWAs

(h) Area forecasts

(i) TAFs

(3) Correctly uses the following, as appropriate, to supplement current and forecast ice information:

(a) Current icing product (CIP)

(b) Forecast icing potential

(c) Freezing level graphics

(4) Correctly states the freezing level along the route of flight in areas where an icing hazard exists.

(5) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the icing hazard.

(2) 30 points are deducted if the candidate fails to provide existing or forecast information on icing.

(3) 10-25 points are deducted if partial or inaccurate information concerning icing was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning icing was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning icing was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-17. Turbulence Hazard Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of turbulence as a hazard, the meteorological conditions in which it is most likely to occur, and its effects on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast turbulence location, altitudes, and intensities along the route:

(a) Turbulence SIGMETs

(b) AIRMET Tango

(c) CWAs

(d) PIREPs

(e) Satellite

(f) Radar

(g) METARs

(3) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the turbulence hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on turbulence, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on turbulence.

(3) 10-25 points are deducted if partial or inaccurate information concerning turbulence was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning turbulence was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning turbulence was given, but no alternate routes, altitudes, and/or destinations were suggested.

(5) Up to 10 points are deducted if information concerning turbulence was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-18. Volcanic Ash Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of volcanic ash as a hazard to aircraft and the effects of volcanic ash on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to determine volcanic ash intensities and location:

(a) METARs

(b) PIREPs

(c) Satellite

(d) Radar

(e) Volcanic ash SIGMETs

(f) CWAs

(g) Volcanic ash advisories

(h) Significant weather prognosis charts

(i) Area forecasts

(j) TAFs

(k) ATCSCC messages

(3) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the volcanic ash hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on volcanic ash, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on volcanic ash.

(3) 10-25 points are deducted if partial or inaccurate information concerning volcanic ash was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning volcanic ash was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning volcanic ash was given, but no alternate routes, altitudes, and/or destinations were suggested.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast dust/sand storms location, altitudes, and movement along the route:

(a) METARs

(b) PIREPs

(c) Satellite

(d) Radar

(e) SIGMETs

(f) CWAs

(g) Significant weather prognosis charts

(h) Area forecasts

(i) TAFs

(3) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the dust/sand storm hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on a dust/sand storm, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on a dust/sand storm.

(3) 10-25 points are deducted if partial or inaccurate information concerning a dust/sand storm was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning a dust/sand storm was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning a dust/sand storm was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-20. Tropical Cyclone Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of tropical cyclones as a hazard and its effect on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast tropical cyclones location, altitudes, and movement along the route:

(a) METARs

(b) PIREPs

(c) Satellite

(d) Radar

(e) SIGMETs for tropical cyclones

(f) AIRMETs

(g) CWAs

(h) Tropical cyclone advisories

(i) Significant weather prognosis charts

(j) Area Forecasts

(k) TAFs

(3) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the tropical cyclone hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on a tropical cyclone, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on a tropical cyclone.

(3) 10-25 points are deducted if partial or inaccurate information concerning a tropical cyclone was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning a tropical cyclone was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning a tropical cyclone was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-21. High Density Altitude Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of the hazard to aircraft flying in high density altitude conditions with lower than standard atmosphere altimeter settings (29.92) and higher than standard atmospheric temperatures.

(2) Exhibits knowledge that aircraft service ceilings are based on density altitude.

(3) Exhibits knowledge of decreased climb performance and increased landing distance with high density altitude conditions.

(4) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current high density altitude threat along the route of flight and at destination:

(a) METARs

(b) PIREPs

(c) Temperature aloft forecasts

(5) Provides the pilot with high density altitude information and provides information to minimize the threat. (See TBL C-2.)

TBL C-2
High Density Altitude Information

Field Elevation (MSL)	High Density Altitude Temperature Threshold (Celsius)		Standard Atmosphere	
			Altitude (MSL)	Temperature (Celsius)
2,000 - 2,999	29 or higher		2,000	11
3,000 - 3,999	27 or higher		3,000	9
4,000 - 4,999	24 or higher		4,000	7
5,000 - 5,999	21 or higher		5,000	5
6,000 - 6,999	18 or higher		6,000	3
7,000 - 7,999	16 or higher		7,000	1

(6) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the tropical cyclone hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on high density altitude, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on high density altitude.

(3) 10-25 points are deducted if partial or inaccurate information concerning high density altitude was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning high density altitude was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning high density altitude was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-22. Non-Convective Low-Level Wind Shear Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of non-convective low-level wind shear as a hazard and its effect on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast non-convective low level wind shear location, altitudes, and movement along the route:

(a) METARs

(b) PIREPs

(c) Radar

(d) AIRMET Tango

(e) VAD wind profiles

(f) base (0.5 degree) reflectivity radar products

(g) TAFs

(3) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the non-convective low-level wind shear hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on non-convective low-level wind shear, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on non-convective low-level wind shear.

(3) 10-25 points are deducted if partial or inaccurate information concerning the non-convective low-level wind shear was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning non-convective low-level wind shear was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning a non-convective low-level wind shear was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-23. Strong Low-Level Winds Hazard Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits knowledge of strong low-level winds as a hazard and its effect on aircraft in flight.

(2) Correctly uses the following products, as appropriate, to provide a complete and accurate description of the current and forecast strong low level winds location, altitudes, and movement along the route:

(a) METARs

(b) PIREPs

(c) Radar

(d) AIRMET Tango

(e) Area forecasts

(f) TAFs

(g) VAD wind profiles

(h) Base (0.5 degree) reflectivity radar products

(3) For flights below FL180, provides strong low-level wind information both along the route of flight and at destination.

(4) For flights above FL180, provides strong low-level wind information only at destination.

(5) Suggests alternative routes, altitudes, and/or destinations to avoid or minimize the strong low-level wind hazard.

b. Grading Guidelines:

(1) No points are deducted if the candidate provides complete and accurate information on strong low-level winds, including alternate routes, altitudes, and/or destinations to avoid or minimize the threat when appropriate.

(2) 30 points are deducted if the candidate fails to provide information on a strong low-level winds.

(3) 10-25 points are deducted if partial or inaccurate information concerning strong low-level winds was given which may, in the evaluator's assessment, have an impact on the safety of the flight.

(4) Up to 10 points are deducted if partial or inaccurate information concerning strong low-level winds was given but the information would not, in the evaluator's assessment, have an impact on the safety of the flight.

(5) Up to 10 points are deducted if information concerning strong low-level winds was given, but no alternate routes, altitudes, and/or destinations were suggested.

C-24. Answer Pilot's (Evaluator's) Request Task

a. Objective: To determine that the EFAS candidate:

(1) Exhibits sound meteorological knowledge in order to select the best data source(s) to answer the evaluator's request.

(2) Provides a complete and accurate answer to the evaluator's request.

(3) Provides clarification when observations and forecasts are in conflict.

b. Grading Guidelines:

(1) No points are deducted if the candidate used the best data source(s) to provide a complete and accurate answer to the evaluator's request and provided clarification when observations and forecasts were in conflict.

(2) 15 points are deducted if the candidate fails to answer the evaluator's request.

(3) 1 to 14 points are deducted if the candidate provided partial and/or inaccurate answers to the evaluator's request.

(4) 1 to 14 points are deducted if the candidate failed to provide clarification when observations and forecasts were in conflict.

C-25. Quality Factors

a. Objective: To determine that the EFAS candidate:

(1) Conveys competence. Possesses and projects comprehensive knowledge that includes but is not limited to:

(a) Principles of meteorology

(b) Aviation weather products

(c) Weather impacts on aircraft operations

(d) NAS operations

(e) Aircraft types and associate flight characteristics

(2) Uses an adequate pace and voice.

(a) An adequate pace varies according to the information being provided; for example, speech rate when describing fronts and pressure systems may be faster than the rate when reading specific observations upon request.

(b) An adequate voice is loud enough to be easily understood yet does not cause the listener to hold the phone away from his/her ear.

(3) Is courteous and professional.

(a) Uses polite and respectful language.

(b) Uses standard phraseology.

(4) Follows a logical sequence.

(a) Evaluator's request is answered first, followed by additional pertinent information.

(b) The briefing order is outlined in the PWB section of FAA Order JO 7110.10.

(5) Provides an accurate weather picture.

(a) Weather symbols and textual contractions are correctly decoded and explained.

(b) Geographic features and political boundaries are correctly described.

(6) Provides clarification when observations and forecasts are in conflict.

(7) Conveys information clearly.

(a) Differentiates between AGL and MSL when appropriate.

(b) Standard phraseology and meteorological terms are used.

(c) Slang and informal speech are avoided.

(8) Conveys information concisely.

(a) Information provided only relates to the route, altitude, and duration of flight.

(b) Translates, interprets, and summarizes.

(9) Anticipates the pilot's needs for specific weather information. These needs vary with:

(a) Pilot experience.

(b) Aircraft equipage.

(c) Flight rules.

(10) Exhibits knowledge of the topographic effects on weather.

(a) Effect of water surfaces on development of precipitation and low clouds.

(b) Upslope winds and adiabatic cooling.

(11) Provides information in a timely manner.

(a) Briefer will be aware that many pilots will be returning to a control or flight following service on another frequency.

(b) Tailor en route flight advisories to the phase of flight that begins after climb out and ends with descent to land.

(c) Current weather and terminal forecast at the airport of first intended landing and/or the alternate airport shall be provided on request.

(d) Advise the pilot to contact the adjacent flight watch facility when adverse weather conditions along the intended route extend beyond the flight watch area.

(12) Exhibits knowledge of the weather situations requiring PIREPs and the importance of PIREPs to remain aware of current flight conditions.

(a) Actively solicit and disseminate PIREPs in accordance with FAA Order JO 7110.10.

(b) PIREPs concerning winds and temperature aloft, wind shear, turbulence, and icing must be solicited and disseminated when one or more of these conditions or criteria exist.

(c) Flight watch specialists must solicit sufficient PIREPs to remain aware of flight conditions.

b. Grading Guidelines:

(1) No points are deducted if all of the quality factors are completely met.

(2) 1-20 points are deducted based on the number and severity of the quality factors deficiencies demonstrated by the candidate.

Appendix D. FAA Form 7220-3, FAA Oral EFAS Evaluation Sheet

FAA Oral EFAS Evaluation Sheet		Type of Eval	EFAS Candidate
Date/Time	Station	FPA	Evaluator
Sup. POC		Debrief Phone #	

1. BACKGROUND INFORMATION	MAX SCORE	SCORE
	15	

Contact 1
Contact 2
Contact 3
Contact 4

2. OBTAINING PILOT REQUEST	MAX SCORE	SCORE
	5	

3. ADVERSE CONDITIONS	MAX SCORE	SCORE
VNR Statement IFR Mountain Obscurations Continued VFR into IMC VFR on top Thunderstorms Ice Turbulence Volcanic Ash Dust/Sand Storm Tropical Cyclones High Density Altitude Low-Level Wind Shear Strong Low-Level Winds	45	

4. ANSWERING PILOT REQUEST	MAX SCORE	SCORE
Conveys accurate information Uses best available data Demonstrates sound meteorological knowledge	15	

5. QUALITY FACTORS	MAX SCORE	SCORE
Conveys competence Speaks with adequate pace and voice Follows a logical sequence Ability to provide an accurate weather picture Provides clarification when observations and forecasts are in conflict Information conveyed clearly Information conveyed concisely Anticipate pilot's weather needs Exhibits knowledge of topographic effects on weather Provides information in a timely manner Obtains or solicit pilot reports	20	

MINIMUM PASSING SCORE = **70%**

SCORE FOR THIS EVALUATION

DEBRIEF NOTES

Appendix E. FAA Form 7220-4, Qualification Report

QUALIFICATION REPORT

To:

Through:

From: Steven Villanueva, Manager
Flight Services, Safety and Operations Group
Federal Aviation Administration
800 Independence Avenue SW
Washington, DC 20591

Signature: Steven Villanueva Date

I – RECORD OF WRITTEN TEST

	Score	Date	Passed / Failed
Weather Analysis			
Satellite			
RADAR			
EFAS			

II – RECORD OF ORAL EXAMINATION

Type of Examination: PWB ☐ IPWB ☐ EFAS ☐

	Score	Date	Passed / Failed
Certification			
Re- Certification			
Proficiency Check			

III - STATUS OF QUALIFICATIONS

Appendix F. International Pilot Weather Briefing Checklist

Use this checklist in conjunction with FAA Form 7220-2, FAA PWB Oral Evaluation Sheet.

Advisory Statement – "Check data as soon as practical after entering foreign airspace, as our international data may be inaccurate or incomplete."

Adverse Conditions

Tropical Cyclone Advisory _____
Volcanic Ash Advisory _____
SIGMETs/Convective SIGMETs _____
AIRMETs _____
Cumulonimbus Clouds _____
Aeronautical Information _____

Current Weather

Fronts and Pressure Systems _____
METARs _____
RADAR Imagery _____
Satellite Imagery _____
PIREPs/AIREPs _____

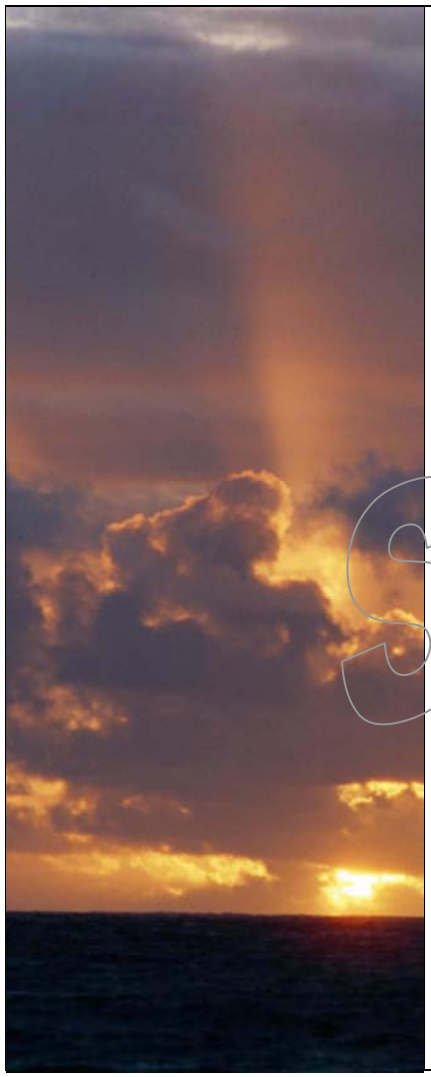
Forecast Weather

Significant Weather Prognostic Charts _____
Area Forecast _____
TAFs _____
Jetstream _____
Tropopause Heights _____
Winds and Temperatures Aloft _____

NOTAMs

Aerodrome _____
Airspace _____
NAVAIDs _____

Appendix G. FAA Form 7220-5, Pilot Weather Briefer Certificate



Certificate of Authority
for
Pilot Weather Briefing

This document certifies that

_____

is authorized
to conduct Pilot Weather Briefing duties in accordance with
Federal Aviation Administration directives.

Certificate Number	Issuance Date
_____	_____

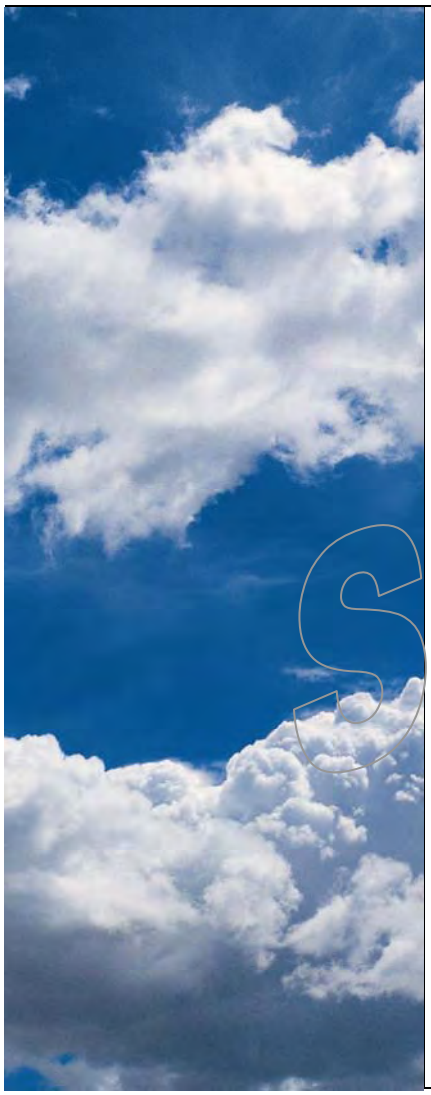
Jeanne Giering
Director

Steven Villanueva
Manager

Federal Aviation Administration
Washington, DC

FAA Form 7220-5 (10-12) Electronic Version

Appendix H. FAA Form 7220-6, En Route Flight Advisory Service Certificate



Certificate of Authority

for

En Route Flight Advisory Service

This document certifies that

_____

is authorized
to conduct En Route Flight Advisory Services in accordance with
Federal Aviation Administration directives.

Certificate Number	Issuance Date
_____	_____
Jeanne Giering *Director*	Steven Villanueva *Manager*

Federal Aviation Administration
Washington, DC

FAA Form 7220-6 (10-12) Electronic Version