

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION**CHAPTER 26 AVIATION WEATHER REGULATORY REQUIREMENTS****Section 1 General – Parts 91K, 121, 125, and 135****3-2046 GENERAL.**

A. Purpose. This chapter contains policy, guidance, and information regarding Title 14 of the Code of Federal Regulations (14 CFR) regulatory requirements for weather that affects aviation operations. This chapter also provides information concerning the sources for obtaining weather reports and forecasts that are used by program managers, certificate holders, and 14 CFR part 125 Letter of Deviation Authority (LODA) holders conducting aircraft operations in accordance with 14 CFR parts 91 subpart K (part 91K), 121, 125, and 135.

B. Scope. This chapter applies to principal operations inspectors (POI) and aviation safety inspectors (ASI) with oversight responsibility of part 91K program managers and certificate holders conducting operations in accordance with parts 121, 125, and 135, as well as part 125 LODA holders. This section focuses on a certificate holder's, LODA holder's, and program manager's means of complying with the 14 CFR requirements for aviation weather and weather sources. A list of commonly used aviation weather acronyms is also provided. Refer to Table 3-106, Acronyms Common to Aviation Weather.

3-2047 REFERENCES (current editions).

- Title 14 CFR Parts 91K, 121, 125, and 135.
- Federal Aviation Administration (FAA) Order 8900.1, Volume 3, Chapter 18, Section 3, Part A Operations Specifications—General, OpSpec/MSpec A010, Approved Sources of Aviation Weather Information. (A010 has slightly different title for part 125).
- Volume 3, Chapter 26, Section 1, General – Parts 91K, 121, 125 and 135.
- Volume 3, Chapter 26, Section 2, Approved Sources of Aviation Weather Reports and Forecasts and Aviation Weather Information Systems – Parts 91K, 121 and 135.
- Volume 3, Chapter 26, Section 3, Adverse Weather Phenomena Reporting and Forecast Systems.
- Volume 3, Chapter 26, Section 4, Enhanced Weather Information Systems.
- Advisory Circular (AC) 00-06, Aviation Weather.
- AC 00-24, Thunderstorms.
- AC 00-30, Atmospheric Turbulence Avoidance.
- AC 00-45, Aviation Weather Services.
- AC 00-54, Pilot Wind Shear Guide.
- AC 00-62, Internet Communications of Aviation Weather and NOTAMs.
- AC 121-25, Additional Weather Information: Domestic and Flag Air Carriers.

3-2048 BACKGROUND. Title 14 CFR contains regulatory requirements for certificate holders and program managers to have adequate weather reporting facilities and to use approved sources of weather reports and forecasts to control flight operations. There are also requirements for

certificate holders and program managers to have a system or method of obtaining reports and forecasts of adverse weather phenomena.

A. Sources of Weather. Title 14 CFR typically refers to three sources of weather reporting facilities, weather reports, and weather forecasts.

1) U.S. National Weather Service (NWS). The NWS provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean areas.

a) The Weather Bureau. Some regulations contained in 14 CFR (e.g., part 121, § 121.119) contain references to “the Weather Bureau.” After these regulations were written, the U.S. Weather Bureau became the NWS. The term “Weather Bureau” is not used in the present day; however, 14 CFR still contains the term in some instances. All references to “the Weather Bureau” are in fact referring to the NWS.

b) The National Oceanic and Atmospheric Administration (NOAA). NOAA is a scientific agency within the U.S. Department of Commerce (DOC). NOAA focuses on the conditions of the ocean and the atmosphere. NOAA is comprised of several organizations referred to as “line offices.” The NWS is one such line office. Title 14 CFR does not refer to NOAA directly, however, the FAA considers information provided by NOAA as being the equivalent of that provided by the NWS for the purpose of satisfying the requirements of 14 CFR.

2) Sources Approved by the NWS. The sources approved by the NWS are actually approved in agreement with and maintained in collaboration with the FAA. The collaboration between the FAA and the NWS is outlined in the current edition of FAA Order 7000.2, FAA/NWS Memorandum of Understanding for Policy Agreements. The NWS/FAA-approved and/or maintained sources are listed below and are discussed further in Volume 3, Chapter 26, Section 2.

- NWS offices (including contract observatories).
- Flight Service Stations (FSS).
- Automated surface observing system (ASOS).
- Automated Weather Observing System (AWOS).
- Supplementary Aviation Weather Reporting System (SAWRS).
- Limited aviation weather reporting stations (LAWRS).

3) Sources Approved By the Administrator. Examples of sources approved by the Administrator appear below. Several of these sources are discussed in greater detail throughout this chapter.

- U.S. and North Atlantic Treaty Organization (NATO) military observing and forecasting sources.
- Members of the World Meteorological Organization (WMO).

- Active meteorological offices operated by a foreign state that subscribes to the standards and practices of the International Civil Aviation Organization (ICAO) conventions.
- Commercial weather products.

B. Reports and Forecasts of Adverse Weather Phenomena. Adverse weather phenomena are meteorological conditions that, if encountered during flight or ground operations, could reduce and even threaten the safety of those operations. Examples of adverse weather phenomena include, but are not limited to:

- Thunderstorms,
- Icing,
- Low-altitude wind shear,
- Natural hazards such as volcanic ash, and
- Any meteorological condition that could cause contamination of a runway or other takeoff surface and directly affect aircraft performance.

3-2049 REGULATORY REQUIREMENTS.

A. Regulatory Requirements—Part 91K. Program managers conducting part 91K operations have regulatory requirements for weather reporting facilities and obtaining reports and forecasts of adverse weather phenomena.

1) Weather Reporting Facilities. Part 91, § 91.1039 generally requires pilots operating aircraft involved in part 91K operations under instrument flight rules (IFR) to use weather reporting facilities that are operated by the following entities:

- The NWS,
- A source approved by the NWS, or
- A source approved by the Administrator.

2) Reports and Forecasts of Adverse Weather Phenomena. Part 91K program managers are subject to the general requirement, contained in part 91, to ensure that no aircraft is operated into known or forecast icing conditions beyond the limitation of the aircraft. Part 91K provides some additional requirements for large transport category aircraft listed in subparagraph 3-2049A2)b). POIs of part 91K program managers should ensure that each program manager has a method in place to ensure the safety of flight by recognizing and avoiding adverse weather phenomena.

a) Icing. Section 91.527 generally contains the requirements for ensuring that no airplane takes off with frost, ice, or snow adhering to a critical surface, and that no aircraft is operated into known or forecast icing conditions. For all operations conducted in accordance with part 91K, program managers must have a method of obtaining reports and forecasts of icing conditions on the ground and en route.

b) Large Transport Category Aircraft. In accordance with § 91.1037(c), part 91K program managers that operate large transport category, turbine-engine-powered airplanes in

excess of the weight allowed by § 91.1037(b) must have in their operating manuals destination airport analysis in accordance with § 91.1025(o). The airport analysis must contain, in part:

- Runway conditions (including contamination),
- Airport or area weather reporting,
- Environmental conditions, and
- Any criteria that affect aircraft performance.

NOTE: In order to satisfy the manual and airport analysis requirements for large transport category, turbine-engine-powered airplanes in accordance with § 91.1025(o), each part 91K program manager operating these aircraft must have a method for obtaining forecasts and reports of adverse weather phenomena that affect aircraft performance (e.g., low pressure, downdrafts, and microburst associated with thunderstorms) and cause runway contamination such as snow (dry and wet), ice, slush, or standing water.

B. Regulatory Requirements—Part 121 Domestic and Flag Operations.

1) Weather Reporting Facilities. Section 121.101(a) requires each certificate holder conducting domestic or flag operations to show that enough weather reporting services are available along each route to ensure weather reports and forecasts necessary for each flight are available.

2) Sources of Weather Reports and Forecasts. Section 121.101 requires a certificate holder to use the following sources for weather reports and forecasts.

a) For operations within the 48 contiguous states and the District of Columbia, § 121.101(b)(1) requires a certificate holder to use weather reports prepared by the NWS or a source approved by the NWS.

b) For operations outside the 48 contiguous states and the District of Columbia, § 121.101(b)(2) requires a certificate holder to use weather reports prepared by a source approved by the Administrator.

c) For reports and forecasts of adverse weather phenomena, § 121.101(d) requires each certificate holder conducting domestic or flag operations to have an approved system for obtaining forecasts and reports of adverse weather phenomena that may affect the safety of flight.

d) For forecasts to control flight movement, § 121.101(c) requires each certificate holder who conducts domestic or flag operations and uses forecasts to control flight movement to base those forecasts on the following sources:

- Weather reports prepared by the NWS or a source approved by the NWS;
- Weather reports prepared by a source approved by the Administrator if operating outside the United States, and

- Weather reports prepared by a source approved as part of a certificate holder's system of obtaining reports and forecasts of adverse weather phenomena.

3) Approved System of Obtaining Reports and Forecasts of Adverse Weather Phenomena. Each adverse weather phenomena reporting and forecast system required by § 121.101(d) must contain procedures for collecting and disseminating information regarding adverse weather phenomena that could affect the safety of flight. Adverse weather phenomena reporting and forecast systems are discussed in greater detail in Volume 3, Chapter 26, Section 3.

a) Icing. Section 121.629 generally prohibits any person from dispatching, releasing, or operating an aircraft when icing conditions on the ground or in flight may adversely affect the safety of the aircraft and flight. Certificate holders are required to have an FAA-approved ground deicing/anti-icing program that includes methods of determining whether conditions of frost, ice, or snow may reasonably be expected to adhere to the aircraft to the point that ground deicing/anti-icing operational procedures must be put into effect. All certificate holders conducting part 121 operations must have an FAA-approved system of obtaining reports and forecasts of adverse weather phenomena that could result in icing conditions on the ground.

b) Operational Requirement to Restrict or Suspend Operations. Section 121.551 requires certificate holders conducting domestic or flag operations to restrict or suspend operations when it knows of conditions (including airport and runway conditions) that are a hazard to safe operations. The operations must be restricted or suspended until the pertinent conditions have been corrected.

c) Manual Requirements for Information Regarding Adverse Meteorological Conditions. Section 121.135(b)(15) requires each certificate holder conducting part 121 operations to have procedures contained in its manual system for operating in periods of ice, hail, thunderstorms, turbulence, or any potentially hazardous meteorological condition.

C. Regulatory Requirements Part 121—Supplemental Operations.

1) Weather Reporting Facilities. Section 121.119 requires each certificate holder who conducts supplemental operations to use specific sources for weather reports and forecasts.

2) Sources of Weather Reports and Forecasts. Section 121.119.

a) Operations Within the United States. Each certificate holder conducting part 121 supplemental operations must use weather reports prepared by the NWS or a source approved by the Weather Bureau. (The Weather Bureau is the NWS.) Refer to subparagraph 3-2048A1a).

b) Operations Outside of the United States or at U.S. Military Airports. Certificate holders conducting part 121 supplemental operations outside of the United States or at U.S. Military airports may use a source approved by the Administrator, but only at those locations where the NWS reports are not available.

c) Forecasts to Control Flight Movement. Section 121.119(b) requires that certificate holders who conduct supplemental operations and use forecasts to control flight movements base those forecasts on the following sources.

- Weather reports prepared by the NWS or a source approved by the NWS.
- Weather reports prepared by a source approved by the Administrator if operating outside the United States or at U.S. Military airports.

3) Reports and Forecasts of Adverse Weather Phenomena.

a) Icing. Section 121.629 generally prohibits any person from dispatching, releasing, or operating an aircraft when icing conditions on the ground or in flight may adversely affect the safety of flight. Certificate holders conducting supplemental operations are required to have to have an FAA-approved ground deicing/anti-icing program that includes methods of determining whether conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft and that ground deicing/anti-icing operational procedures must be in effect. All certificate holders conducting part 121 operations must have an FAA-approved system of obtaining reports and forecasts of adverse weather phenomena that could result in icing conditions on the ground.

b) Operational Requirement to Restrict or Suspend Operations. Section 121.553 requires each certificate holder or pilot in command (PIC) conducting supplemental operations to restrict or suspend operations when he or she knows of conditions (including airport and runway conditions) that are a hazard to safe operations. The operations must be restricted or suspended until the pertinent conditions have been corrected.

c) Manual Requirements for Information Regarding Adverse Meteorological Conditions. Section 121.135(b)(15) requires each certificate holder conducting part 121 operations to have procedures contained in its manual system for operating in periods of ice, hail, thunderstorms, turbulence, or any potentially hazardous meteorological condition.

NOTE: In order to satisfy the manual requirements of § 121.135(b)(15) and the operational requirements of § 121.553, each certificate holder conducting part 121 supplemental operations must have an adverse weather phenomena reporting and forecast system to obtain reports and forecasts of adverse weather phenomena.

D. Regulatory Requirements Part 125. Part 125 does not contain any specific requirements for weather reporting facilities or sources of weather reports and forecasts.

1) Weather Reports and Forecasts. In general, part 125 requires weather reports or forecasts to indicate that weather conditions at a destination and/or alternate airport will be at or above the authorized minimums at the time of arrival. Some examples of these requirements are contained in the following regulations:

- Part 125, § 125.359, Flight Release Under VFR.
- Section 125.361, Flight Release Under IFR or Over-The-Top.
- Section 125.363, Flight Release Over Water.

- Section 121.369, Alternate Airport Weather Minimums.

2) Reports and Forecasts of Adverse Weather Phenomena. Section 125.321 requires a PIC who encounters a meteorological condition to report that condition to the appropriate ground station as soon as practicable if the pilot feels that the knowledge of the condition is essential to the safety of other flights. Section 125.403 requires the airplane flight release to contain, or have attached to it, weather reports, available weather forecasts, or a combination thereof; this includes reports or forecasts of adverse weather phenomena that could affect the safety of flight. POIs of part 125 certificate holders and LODA holders should ensure that each certificate/LODA holder includes these reports and forecasts in, or as an attachment to, the airplane flight release. In addition, POIs should ensure that pilots conducting part 125 operations are able to use the information provided in these reports and forecasts to recognize and avoid adverse weather phenomena.

3) Icing. Section 125.221 contains regulatory requirements regarding the operation of an airplane in icing conditions. Part 125 certificate and LODA holders must have a method of obtaining reports and forecasts of icing conditions on the ground and en route in order to satisfy these regulatory requirements.

E. Regulatory Requirements for Part 135.

1) Sources of Weather Reports and Forecasts. Part 135, § 135.213 requires a person (refer to 14 CFR part 1 for the definition of “person”) operating an aircraft to use the following sources for aviation weather reports and forecasts.

- The NWS,
- A source approved by the NWS, or
- A source approved by the Administrator.

2) Reports and Forecasts of Adverse Weather Phenomena.

a) Icing. Section 135.227 contains requirements for generally ensuring that no aircraft takes off with frost, ice, or snow adhering to a critical surface, and no aircraft is operated into known or forecast icing conditions. For all operations conducted in accordance with part 135, certificate holders must have a system that provides, at least, information regarding icing conditions on the ground and en route.

b) Restriction or Suspension of Operations. Section 135.69 requires each certificate holder or PIC to restrict or suspend operations when conditions, including airport and runway conditions, exist that present a hazard to safety. The certificate holder or pilot (as appropriate) must restrict or suspend operations as necessary until conditions presenting the hazard have concluded or been corrected. Adverse weather phenomena can be a hazard and threaten the safety of flight and ground operations. In order to satisfy the operational requirements of § 135.69, certificate holders conducting part 135 operations must have a system of obtaining reports and forecasts of adverse weather phenomena.

3-2050 REGULATORY INTENT.

A. Requirement for Weather Reports, Forecasts, or a Combination Thereof. There are many regulations in 14 CFR that contain requirements for weather reports, forecasts, or a combination thereof to indicate that the weather at a destination or alternate airport will be at or above the authorized landing minima for the airport, in accordance with a certificate holder's operations specifications (OpSpecs). The regulatory intent of these regulations is that each certificate holder, PIC, dispatcher, or person authorized to exercise operational control must consider all available weather information pertaining to a particular airport when making the decision on whether or not to dispatch, release, or operate (continue) a flight. There may be times when a combination of reports and forecasts indicate that weather will be at or above minimums, and there may be times when the opposite is true and a flight will have to be delayed or in some cases cancelled.

1) Combination of Weather Reports and Forecasts—The Worst Weather Condition. Certain regulations concerning the selection of destination and alternate airports require that "weather reports or forecasts, or any combination thereof, indicate that the weather conditions will be at or above" the minimum weather conditions specified in those regulations. The FAA Office of Chief Counsel has consistently interpreted these regulations to mean that the worst weather condition in any of the reports or forecasts used to control a flight movement is the controlling factor. These interpretations make the remarks portion of a forecast as operationally significant as the main body of the forecast. Therefore, it is FAA policy that the worst weather condition in the main body or the remarks portion of a terminal forecast, as well as any weather report used, is the controlling factor when selecting a destination or alternate airport.

2) Weather Reports and Forecasts are Required For Part 121 Operations. Some part 121 regulations contain requirements for "weather reports *or* forecasts, or a combination thereof" to indicate that weather will be at or above the authorized minimums (e.g., §§ 121.613, 121.615, and 121.625). The word "or" in these regulations has led some to believe that a flight can be dispatched, released, and/or operated (continued) using just a report or just a forecast. However, this is not the case. There are several part 121 regulations that require both reports and forecasts to be available for flight operations; therefore, in order to comply with all of the part 121 regulatory weather requirements, both weather reports and forecasts must be available for all part 121 flight operations.

a) Section 121.101 requires a certificate holder conducting domestic and/or flag operations to show that enough weather reporting services are available along each route to ensure weather reports *and* forecasts necessary for the operation.

b) Section 121.599 states that, for domestic and flag operations, no aircraft dispatcher may release a flight and, for supplemental operations, no PIC may begin a flight unless he is thoroughly familiar with reported *and* forecast weather conditions on the route to be flown.

c) Section 121.601 requires a dispatcher for a certificate holder conducting domestic and/or flag operations to provide the PIC with all available weather reports *and* forecasts of weather phenomena that may affect the safety of flight.

B. “Current,” “Latest,” and “Available” Weather. Throughout 14 CFR, there are requirements to have the “current,” “available,” or “latest” weather reports or forecasts. The purpose of regulations that establish weather minimums, or that require flightcrews and dispatchers to consider weather conditions, is to prevent unsafe flight operations. The phrases “current weather,” “latest weather report,” and “available forecasts” have occasionally been interpreted inappropriately, resulting in noncompliance with 14 CFR and in diminished safety during flight operations. In order to ensure the highest degree of safety and regulatory compliance, the FAA defines the following terms within the context of weather reports and forecasts, as applicable:

- “Current,” with respect to a weather report, means present and actual.
- “Available,” with respect to a weather report and/or forecast, means for immediate use, obtainable, and accessible.
- “Latest,” with respect to a weather report and/or forecast means just completed, most current, and up-to-the-minute.

NOTE: These definitions are limited to weather reports and forecasts and should not necessarily be construed to apply to other sections of the regulations.

Table 3-106. Acronyms Common to Aviation Weather

ADDS	Aviation Digital Data Service (Web site at www.aviationweather.gov (Aviation Weather Center))
AFSS	Automated Flight Service Station
AIREP	Aircraft Reports
AIRMET	Airmen's Meteorological Information
AMS	American Meteorological Society
ASOS	Automated Surface Observing System
ASWON	Aviation Surface Weather Observation Network
AWC	Aviation Weather Center (Web site at www.aviationweather.gov)
AWOS	Automated Weather Observing System (FAA system)
AWRP	Aviation Weather Research Program
AWSS	Automated Weather Sensor System
CWA	Central Weather Advisory
CWIP	Commercial Weather Information Provider
CWO	Contract Weather Observer
EWINS	Enhanced Weather Information Systems
FICON	Field Condition
FMF	Flight Movement Forecast
GOES	Geostationary Operational Environmental Satellites
ICAO	International Civil Aviation Organization
LAWRS	Limited Aviation Weather Reporting Station (usually a control tower)
LLWAS	Low-Level Wind Shear Alert System
METAR	Aviation Routine Weather Report
NCEP	National Centers for Environmental Prediction
NESDIS	National Environmental Satellite, Data, and Information Service
NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notices to Airmen
NWA	National Weather Association
NWS	National Weather Service (Part of NOAA)
PIREP	Pilot Weather Report
QICP	Qualified Internet Communications Provider (Refer to AC 00-62, Internet Communications of Aviation Weather and NOTAMs, current edition)
SAWRS	Supplemental Aviation Weather Reporting System (usually an airline office at a terminal not having NWS or FAA facilities)
SAWS	Stand-Alone Weather Sensors
SIGMET	Significant Meteorological Information
SPECI	Aviation Selected Special Weather Report
TAF	Terminal Area Forecast
TDWR	Terminal Doppler Weather Radar
VAA	Volcanic Ash Advisory
VAAC	Volcanic Ash Advisory Center
WMO	World Meteorological Organization
WMSCR	Weather Message Switching Center Replacement

RESERVED. Paragraphs 3-2051 through 3-2070.