NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

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Attachment 4 – Dispatch Operations Manual [Excerpts]

OPERATIONAL FACTORS

DCA19CA206

Dispatch Operations Manual

For a summary of changes, click here.

FRONTIER AIRLINES℠

FLIGHT OPERATIONS

Ensuring Frontier Airlines' success through the safe, professional and efficient operation of our aircraft

THIS MANUAL IS ASSIGNED TO: _____

ADDRESS: _____

_____

PHONE NUMBER: _____

APPENDIX E

AVIATION WEATHER INFORMATION SYSTEM (AWINS)

Frontier Airlines uses an elaborate and detailed aviation weather system to assure the safety of all flight operations. This system ensures all regulatory requirements are met and it achieves its goals through three means:

1. The Standard Aviation Weather Information System
2. The Adverse Weather Phenomenon Reporting and Forecast System
3. The Enhanced Weather Information System (EWINS)

STANDARD AVIATION WEATHER INFORMATION SYSTEM

General & Approved Weather Sources (Primary Weather Product) 14 CFR 121.101, 121.119, A010

The Standard Aviation Weather Information System at Frontier Airlines involves the collection and dissemination of aviation weather information obtained from approved sources for all operations types. Frontier Airlines will only use weather sources approved in A010 of the Operations Specifications, which ensures enough weather reporting and forecasting services along each and every route Frontier Airlines is to fly. The approved sources include:

- Primary aeronautical weather data for operations within the contiguous 48 United States and the District of Columbia is obtained from Weather Services International (WSI), which sources their data from the U.S. National Weather Service (NWS). NOTAM data is also sourced from WSI.

  NOTE: Any other weather data source may be used, as long as it was prepared by the U.S. National Weather Services or is a source approved by the U.S. National Weather Service. These include Flight Service Stations (FSS), ASOS stations, AWOS stations, and NWS offices.

- The U.S. Department of Defense
- For operations outside the 48 contiguous United States and the District of Columbia, the following weather sources may be used:
  - Servicio Meteorologico National, Mexico (SMN)
  - U.S. and North Atlantic Treaty Organization (NATO) military observing and forecasting services
  - 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
  - ICAO member states authorized meteorological stations and automated observations

Continued Regulatory Compliance 14 CFR 121.101, 121.599, 121.601

- Frontier Airlines must assure that there are enough weather reporting and forecasting services along each route to be flown to ensure there are enough weather reports and forecasts for every operation
- For all operations types, the Aircraft Dispatcher may not release a flight unless he or she is thoroughly familiar with all reported and forecast weather conditions on the route to be flown. Prior to beginning any flight, the pilot-in-command must be thoroughly familiar with all reported and forecasted weather conditions on the route to be flown
- For all operations types, the Aircraft Dispatcher must provide all weather reports and forecasts of weather phenomena that may affect the safety of the flight. This must be done both prior to the flight's departure and while the flight is enroute.

SYSTEM DESCRIPTION

The Frontier Airlines Aviation Weather Information System is an integral part of Frontier Airline's SOC, Dispatch, Flight Following, and Operational Control systems that allows personnel to obtain, through electronic or satellite communication, aviation weather information from authorized and approved weather sources and to disseminate that information to flight crews, dispatchers, and persons authorized to exercise operational control. This system also allows Dispatchers and flight crews to obtain and disseminate weather information rapidly, accurately, and in a format that is operationally suitable.

This system has both integrated and stand-alone components:

- Authorized NWS weather data and NOTAMs is sourced from WSI and is provided to the SABRE Dispatch Monitor flight planning software for integrated use in flight planning and operational control decisions.
- Authorized NWS weather data, PIREPs, and other graphical weather data is sourced from WSI and is provided to the SABRE Flight Explorer aircraft situation display for integrated use in flight planning and operational control decisions. This software package allows real-time weather information to be overlaid graphically and textually along with airborne aircraft's position and flight track for real-time situational awareness and enhanced decision-making.
- A stand-alone briefing system is available at WSI's Pilot Brief website accessible through the Internet at each Aircraft Dispatcher's workstation. A satellite and backup feed provides continuous weather information, in both textual and graphical format.
- The Flight crews may request METARs, TAFs, and Digital ATIS (D-ATIS) information at any time through the ACARS system on-board the aircraft.
- A stand-alone briefing system is also available through the Aviation Digital Data Service (NOAA), or ADDS. This website is available through the internet at each Aircraft Dispatcher's workstation

SYSTEM CAPABILITIES

The Frontier Airlines Aviation Weather Information System has adequate equipment and procedures for obtaining and distributing operational weather information to flight crews, dispatchers, and persons authorized to exercise operational control. The Aircraft Dispatcher is responsible for providing all pertinent weather and NOTAM information sourced from this system to flight crews through the Dispatch Release, ACARS, ARINC, or the telephone. This system provides adequate meteorological information to meet the pertinent regulatory requirements for all phases of flight, including preflight planning, departure, enroute, and arrival.

PRE-FLIGHT

The system provides enough information for flight crews, dispatchers, and persons authorized to exercise operational control to become thoroughly familiar with current reported and forecast weather conditions along the entire route of flight, which includes the origin airport, the airports along the route, the destination, and any alternate airports. The system provides METARs and TAFs for each aforementioned airport

NOTE: If an airport(s) does not receive a TAF or forecast from an approved weather source, a TAF can be requested from any CWIP identified in the approved EWINS program.

DEPARTURE

For the departure phase of a flight, the system provides current and forecast information to flight crews, dispatchers, and persons authorized to exercise operational control that is specific to the conditions at the departure airport and departure (takeoff) alternate, if required. This is provided by METARs, TAFs, and field condition reports in the form of NOTAMs received in SABRE Dispatch Monitor, via ACARS, and as available on the WSI PilotBrief website.

EN ROUTE

While a flight is en route, the system continuously updates actual weather information to flight crews, dispatchers, and persons authorized to exercise operational control. Dispatchers receive changes in METARs and TAFs automatically through the SABRE Dispatch Monitor software. Significant changes in current or forecast conditions, such as the location, intensity, and movement of the weather phenomena, are available to ensure the continued safety of flight by viewing the WSI PilotBrief website and the weather feed provided to SABRE Flight Explorer. This information may be communicated to airborne flight crews by the Dispatcher via ACARS and ARINC. As well, airborne crews may request updated METARs and TAFs via ACARS.

The following information is able to be provided while a flight is enroute, and the source of that data is also noted:

Weather Information	Source
Current areas of adverse weather phenomena such as thunderstorms, turbulence, and heavy weather radar returns.	WSI PilotBrief, SABRE Dispatch Monitor, SABRE Flight Explorer
Hazardous conditions such as volcanic ash	WSI PilotBrief

Current reports and forcasts of winds and temperatures aloft	WSI PilotBrief, ADDS
Current reports and forecasts of destination and alternate airport weather	WSI PilotBrief, SABRE Dispatch Monitor, ACARS, ADDS
Continual updates to weather and hazard advisories such as SIGMETS, convective SIGMETS, AIRMETS, VAAs, and PIREPS	WSI PilotBrief, ADDS
High-level severe weather information (clear air turbulence)	WSI PilotBrief, ADDS
High-level Significant Weather(SIGWX) forecast	WSI PilotBrief, ADDS

ARRIVAL

For the arrival phase of flight, the system provides current and forecast weather information and NOTAMs to flight crews, dispatchers, and persons authorized to exercise operational control that is specific to the conditions at the destination airport and designated alternate airport(s), when required. This is provided by METARs, TAFs, and field condition reports in the form of NOTAMs received in SABRE Dispatch Monitor, via ACARS, and as available on the WSI PilotBrief website.

ALL PHASES OF FLIGHT

For all phases of flight (preflight planning, departure, en route, and arrival), the system provides flight crews, dispatchers, and persons authorized to exercise operational control with at least the following weather information. The source of that information is also noted below:

Weather Information	Source
Weather reports and forecasts for departure, destination, and alternate airports	SABRE Dispatch Monitor, WSI PilotBrief, ACARS, ADDS
Weather reports and forecasts for airports along the route of flight	SABRE Dispatch Monitor, WSI PilotBrief, ACARS, ADDS
Forecast winds and temperatures aloft for all route segments at planned cruising altitudes	SABRE Dispatch Monitor, WSI PilotBrief, ADDS
Surface observations for departure, destination, alternate, and diversionary airports	SABRE Dispatch Monitor, WSI PilotBrief, ACARS, ADDS
NOTAMs for departure, destination, alternate, and diversionary airports, and navigational facilities	SABRE Dispatch Monitor, WSI PilotBrief
Information to determine the Density Altitude (DA) at airports where takeoff and landing will occur	SABRE Dispatch Monitor, WSI PilotBrief, ACARS, (METARS and TAFs), ADDS
Hazards and adverse weather phenomena en route such as thunderstorms, turbulence, wind shear, icing, and volcanic ash	SABRE Dispatch Monitor, WSI PilotBrief, SABRE Flight Explorer ADDS
Severe weather cloud types such as cumulonimbus (CB) and standing lenticular (SL)	SABRE Dispatch Monitor, WSI PilotBrief, ADDS
Tropical cyclone data (tropical storm, typhoon, hurricane, and cyclone)	WSI PilotBrief,

Continual updates to weather and hazard advisories such as SIGMETS, convective SIGMETs, AIRMETS, VAAs, and PIREPS.	WSI PilotBrief, SABRE Flight Explorer, ADDS

WEATHER BRIEFING DOCUMENTS (WEATHER PACKAGE)

14 CFR 121.687, 121.689, 121.695, 121.697

The Dispatch Release must contain, or have attached to it, weather reports, available weather forecasts, or a combination thereof, for the destination airport, intermediate stops, and alternate airports, that are the latest available at the time the release is signed by the pilot in command and dispatcher. It may include any additional available weather reports or forecasts that the pilot in command or the aircraft dispatcher considers necessary or desirable.

In compliance with the above regulation, initial dissemination of weather information obtained from the aviation weather information system is provided to the flightcrew by via a weather package as part of the printed Dispatch Release for all operations types. It contains the following, which are the latest reports or forecasts at the time of the printing of the Dispatch Release:

- METARs for the departure airport, destination airport, alternates, and airports along the intended route of flight.
- TAFs for the departure airport, destination airport, alternates, and airports along the intended route of flight.
- AIRMETs, SIGMETs, and CONVECTIVE SIGMETs along the intended route of flight.
- PIREPs along the intended route of flight.
- D and FDC NOTAMs for the departure airport, destination airport, alternates, and airports along the intended route of flight.
- Dispatch NOTAMs for the departure airport, destination airport, alternates, and airports along the intended route of flight.

NOTE: This weather package is retained with the dispatch release and is electronically stored for a minimum period of three calendar months.

ADVERSE WEATHER PHENOMENON REPORTING AND FORECAST SYSTEM

General 14 CFR 121.101, 121.135, 121.629

Frontier Airlines has an FAA-approved system for obtaining forecasts and reports of all adverse weather phenomena that may affect its route network for all operations types. In particular, the system must obtain and provide information regarding conditions that could result in conditions on the ground or enroute. These systems are referred to as the adverse weather phenomena reporting and forecast systems, and Frontier Airlines' system is described in this section. This system contains methods through which Frontier Airlines obtains, maintains, and disseminates information regarding adverse weather phenomena. As well, it describes the procedures for operating during any potentially hazardous meteorological conditions.

NOTE: Approval of the Frontier Airlines' Adverse Weather Phenomenon Reporting and Forecast System is constituted by approval in the A010 of the Operations Specifications and the FAA approval of this section in the Dispatch Operations Manual Appendix E (all sections). All other sections of this manual are considered FAA accepted.

ADVERSE WEATHER PHENOMENA CONDITIONS

Adverse weather phenomena are meteorological conditions that, if encountered during ground or flight operations, could directly diminish and even threaten the safety of those operations. Frontier Airlines considers the following meteorological conditions to be adverse weather phenomena:

- Moderate to severe turbulence
- Strong surface winds (exceeding 30 knots)
- Low-level wind shear
- Thunderstorms
- Moderate or severe in-flight icing
- Icing which affects ground operations (including snow, freezing rain, drizzle, ice, fog, or sleet)
- Meteorological conditions that contaminate a runway or takeoff surface and adversely affect aircraft performance
- Sandstorms and duststorms
- Cyclones, hurricanes, typhoons, and tropical storms
- Volcanic ash

SYSTEM DESCRIPTION

The Adverse Weather Phenomenon Reporting and Forecast System is an integral part of Frontier Airline's SOC, Dispatch, Flight Following, and Operational Control systems that allows personnel to obtain, through electronic or satellite communication, adverse weather information from authorized and approved weather sources and to disseminate that information to flight crews, dispatchers, and persons authorized to exercise operational control. This system also allows Dispatchers and flight crews to obtain and disseminate weather information rapidly, accurately, and in a format that is operationally suitable.

- Authorized NWS weather data is sourced from WSI and is provided to the SABRE Dispatch Monitor flight planning software for integrated use in flight planning and operational control decisions.
- Authorized NWS weather data, PIREPs, and other graphical weather data is sourced from WSI and is provided to the SABRE Flight Explorer aircraft situation display for integrated use in flight planning and operational control decisions. This software package allows real-time weather information to be overlaid graphically and textually along with airborne aircrafts' position and flight track for real-time situational awareness and enhanced decision-making.
- A stand-alone briefing system is available through WSI's Pilot Brief website accessible through the Internet at each Aircraft Dispatcher's workstation. A satellite and backup feed provides continuous weather information, in both textual and graphical format.
- A stand-alone briefing system is also available through the Aviation Digital Data Service (NOAA), or ADDS. This website is available through the internet at each Aircraft Dispatcher's workstation.

ADVERSE WEATHER PHENOMENA REPORTS AND FORECASTS

Reports of adverse weather phenomena are based on real-time information provided by radar and satellite imagery. Pilots can also report adverse weather phenomena, when encountered or observed, via (PIREPs). Reports of adverse weather phenomena are issued by the NWS, in the United States, and by meteorological offices operated by foreign States outside of the United States. Reports of volcanic ash are issued by the Volcanic Ash Advisory Center (VAAC), which has locations worldwide.

The following weather information is used by Frontier Airlines be provide adverse weather information data, and the source of that data is also noted below:

Weather Information	Source
AIRMETs	WSI PilotBrief, SABRE Dispatch Monitor, SABRE Flight Explorer, ADDS
SIGMETs	WSI PilotBrief, SABRE Dispatch Monitor, SABRE Flight Explorer, ADDS
CONVECTIVE SIGMETs	WSI PilotBrief, SABRE Dispatch Monitor, SABRE Flight Explorer, ADDS
Volcanic Ash Advisories (VAA)	WSI PilotBrief Information regarding the VAAC can also be found via the National Oceanic and Atmospheric Administration's (NOAA) VAAC. The Web site for the two U.S. VAACs in Washington, DC, and Anchorage, AK, are http://www.ssd.noaa.gov/VAAC and http://vaac.arh.noaa.gov
Aviation Tropical Cyclone Advisories (TCAs). (Includes tropical storms, typhoons, hurricanes, and cyclones)	WSI PilotBrief – Information regarding worldwide TCACs can be found at http://www.nhc.noaa.gov/aboutrsmc.shtml – Eastern Pacific and Atlantic tropical cyclone information is available at http://www.nhc.noaa.gov. – Central Pacific tropical cyclone information is available at http://www.prh.noaa.gov/hnl/cphc. – Western Pacific tropical cyclone information is available at http://www.cpc.ncep.noaa.gov/products/fews/CYCLONES/wpacific.shtml

Radar Imagery	WSI PilotBrief, SABRE Flight Explorer, ADDS
Satellite Imagery	WSI PilotBrief, SABRE Flight Explorer, ADDS
Collaborative Convective Forecast Product (CCFP)	WSI PilotBrief, SABRE Flight Explorer, ADDS
PIREPs	WSI PilotBrief, SABRE Dispatch Monitor, ADDS
METARs/SPECIs	WSI PilotBrief, SABRE Dispatch Monitor, ADDS
TAFs	WSI PilotBrief, SABRE Dispatch Monitor, ADDS
Area Forecast	WSI PilotBrief, SABRE Dispatch Monitor, ADDS

NOTE: A complete description of each of these products can be found in the AIM, Chapter 7, Safety of Flight.

SYSTEM CAPABILITIES

The Frontier Airlines Adverse Weather Phenomenon Reporting and Forecast System has adequate equipment and procedures for obtaining and distributing adverse weather information to flight crews, dispatchers, and persons authorized to exercise operational control. The Aircraft Dispatcher is responsible for providing all adverse weather information sourced from this system to flight crews through the Dispatch Release, ACARS, ARINC, or the telephone. This system provides adequate adverse meteorological information to meet the pertinent regulatory requirements for all phases of flight, including preflight planning, departure, enroute, and arrival.

ACCESS

Each Aircraft Dispatcher is given unique user access to the SABRE Dispatch Monitor and Flight Explorer software products upon completion of initial qualification as an Aircraft Dispatcher at Frontier Airlines in accordance with the Dispatch Training Manual. The WSI PilotBrief website and all other websites listed in Appendix E are available to all Dispatchers and Senior Operations Managers on their workstations via the Internet and Microsoft Internet Explorer.

COLLECTION AND EVALUATION

Each system described in Appendix E automatically ingests adverse weather data over the Internet in accordance with the software program developer's and service provider's procedures. Each Aircraft Dispatcher will evaluate the adverse weather phenomena and their potential effects on flight and ground operations within their operational control scope.

DISSEMINATION

Each Aircraft Dispatcher will quickly disseminate any adverse weather phenomena information that may affect safety of flight to their flights in question. Pre-departure, this may be done via a Dispatch Release remark, telephone contact with the flight-crew, or via ACARS. In-flight, this information will be communicated promptly via ACARS or ARINC.

CONTINUOUS UPDATING

WSI PilotBrief and all SABRE products are continually updated with new information as it is received from the National Weather Service.

NOTE: If updated weather information is not being received, it will be promptly reported by the Aircraft Dispatcher to the email address [redacted] for resolution.

CONTINUOUS MONITORING

All adverse weather phenomena systems described in Appendix E will be continuously monitored by the Aircraft Dispatcher throughout their entire shift.

PILOT WEATHER REPORTS (PIREPS)

Each Aircraft Dispatcher will quickly disseminate any PIREPs that may affect safety of flight to their flights in question. Pre-departure, this may be done via a Dispatch Release remark, telephone contact with the flight crew, or via ACARS. In-flight, this information will be communicated promptly via ACARS or ARINC.

NOTE: PIREPs should only be disseminated when reported by aircraft of a similar type and size.

LOCATION OF PHENOMENA

The graphical weather maps in WSI PilotBrief provide the location of adverse weather phenomena with reference to navigational fixes, and the weather overlays in SABRE Flight Explorer provide the location of adverse weather phenomena with reference to aircraft relative position.

OPERATING PROCEDURES

14 CFR 121.135, 121.629

Procedures for operating in areas affected by adverse weather phenomena are contained in the Flight Operations Manual, Volume I. At a minimum, flights will not be dispatched or operated through areas of reported or forecast adverse or hazardous weather. Adverse weather phenomena should be avoided by:

- Changing routing or altitude,
- Delaying takeoff or landing,
- Holding, or
- Landing at an alternate.

Aircraft Dispatchers will not plan Frontier Airlines flights into areas of forecast or known hazardous weather. A route and/or altitude will be planned to avoid known or forecasted hazardous turbulence, icing, and thunderstorms.

NOTE: No person at Frontier Airlines may dispatch, release, or operate an aircraft when icing conditions on the ground or in flight may adversely affect the safety of the aircraft.

COMMUNICATION

Flight crews and Aircraft Dispatchers must communicate with each other regarding areas of adverse weather phenomena. Authorized means of communication include, but are not limited to, telephone contact, ACARS, ARINC, or Dispatch Release remarks.