



Federal Aviation
Administration

TAFs in the NextGen Era

15th Aviation, Range and
Aerospace Meteorology Conf
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TAF and NextGen

- **What is the role of the Terminal Aerodrome Forecast (TAF) in the NextGen Era?**
- **Some NextGen Concepts or are they myths?**
 - Decision Support Tools
 - Probability Forecasts
 - Weather Directly to the Cockpit.
 - Single Authoritative Source

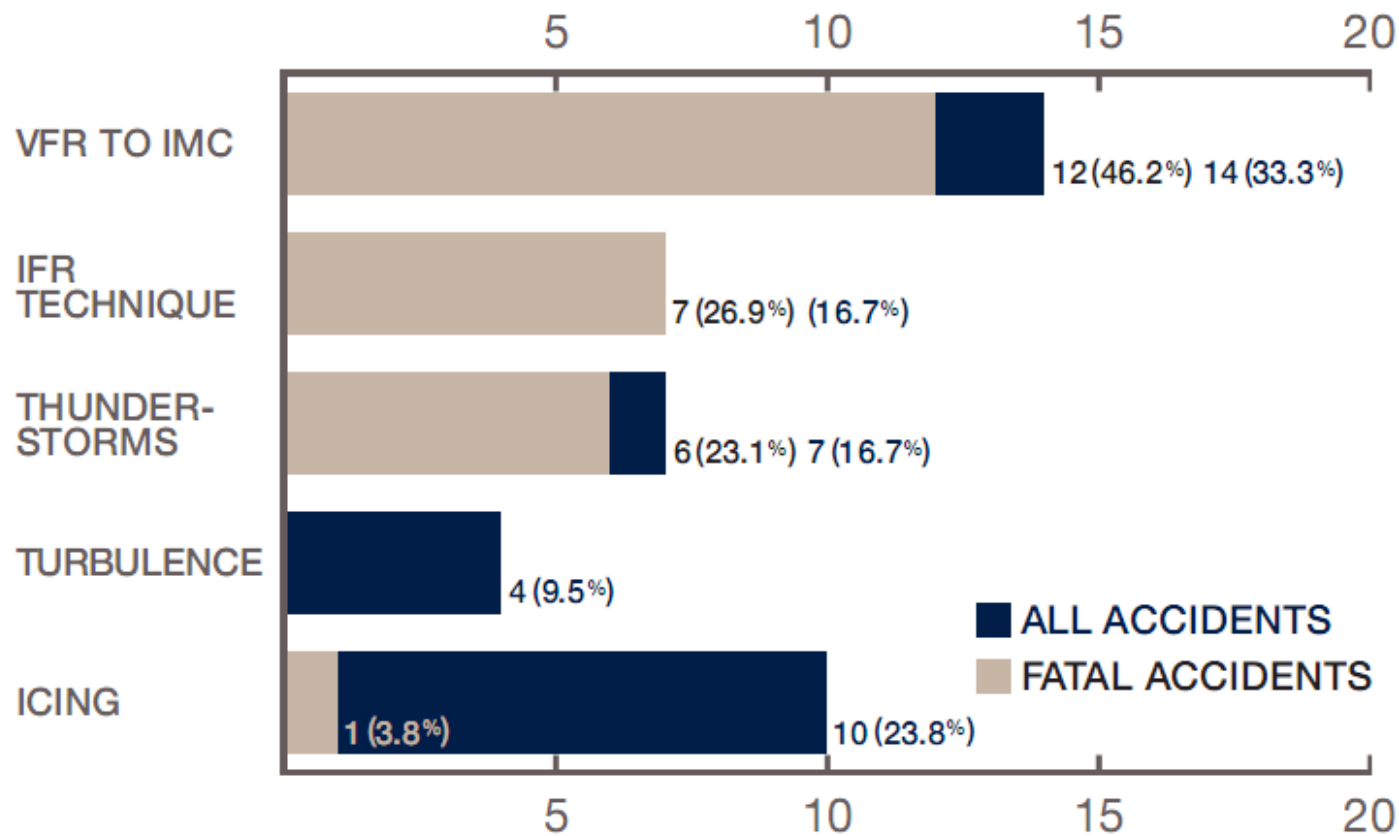


Uses

- **IFR vs. VFR**
- **Terminal Aerodrome Forecast (TAF)**
 - Sets acceptance rates for airport
 - Determines alternate requirements
 - Fuel Load
 - Determines possible approaches or if landing is even possible
- **Terrain Obscuration**
- **For GA, most frequent cause of fatal accidents**

2010 Nall Report

FIGURE 19 : TYPES OF WEATHER ACCIDENTS



TAF Governance



§ 91.103 Preflight action.

Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—

(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts

**This is the Basic Rule Of
Weather for ALL pilots**

GA Rules

- **§ 91.151 Fuel requirements for flight in VFR conditions**
 - 30 min day/45 night
- **§ 91.167 Fuel requirements for flight in IFR conditions.**
 - 45 min
- **§ 91.169 IFR flight plan: Information required.**
 - \pm one hour $>2,000\text{ft}$ and $> 3 \text{ SM}$

Transport Rules

- **§ 135.213** Weather reports and forecasts
- **§ 135.219** IFR: Destination airport weather minimums.
- **§ 135.221** IFR: Alternate airport weather minimums.
- **§ 135.223** IFR: Alternate airport requirements.



§121.101 Weather reporting facilities

(c) Each certificate holder conducting domestic or flag operations that uses forecasts to control flight movements shall use forecasts prepared from weather reports specified in paragraph (b) of this section and from any source approved under its system adopted pursuant to paragraph (d) of this section.

(d) Each certificate holder conducting domestic or flag operations shall adopt and put into use an approved system for obtaining forecasts and reports of adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear, that may affect safety of flight on each route to be flown and at each airport to be used

§ 121.601 Aircraft dispatcher information to pilot in command: Domestic and flag operations.

(b) Before beginning a flight, the aircraft dispatcher shall provide the pilot in command with all available weather reports and forecasts of weather phenomena that may affect the safety of flight, including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear, for each route to be flown and each airport to be used.

(c) During a flight, the aircraft dispatcher shall provide the pilot in command any additional available information of meteorological conditions (including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear), and irregularities of facilities and services that may affect the safety of the flight.

Legal Interpretations

- **FAA General Counsel**

- “The FAA has consistently provided interpretations that a weather report or forecast does not satisfy the regulatory requirements of Section 121.613 when the weather report or forecast contains phrases reflecting that weather conditions at the destination airport at ETA may be at or above the required weather minimums and it also contains phrases reflecting possible below minimum weather conditions at the destination airport at ETA. Therefore, since the weather report or forecast as described above is not indicative of above minimum weather conditions, it is not sufficient to allow dispatch or release of an aircraft.”
- **The Pilot must use the worse conditions forecasted when deciding if to file for an alternate**



Legal Interpretation

- **Severe Impact**
 - Carrying extra fuel because of intermittent, tempo (conditional groups)
 - Loss of revenue
- **Carrier solution:**
 - EWINS
 - Enhanced Weather Information System

EWINS

- **Allows Carrier to Use Forecast/TAF other than NWS.**
 - Principle Operations Inspector (POI) approve the use of vendor, or carrier operations section to provide forecast/TAF, or
 - Approve trained dispatcher to modify NWS TAF
- **Also WMO approval needed for International Vendor support**



International Requirements

ICAO Annex 3

- The TAF is part of the ICAO requirements and changes must be approved through that international body
- Then:
 - Changes must then be coordinate, published and implemented by FAA, NWS, and DoD
 - Training and software changes



TAF Summary

- An aircraft can not “to the letter of the law” take off or land without a TAF
- TAF format and contents are part of international system and difficult to change
- Unless changes are ready – now; not much hope of these being ready by IOC.
- Probability forecast may be useful for FAA internal consumption but not useful for pilot use unless new regulatory system is implemented



TAF Summary

- **EWINS is entrenched as integral part of airline operations, but is outside government directives**
 - Airlines do not use SAS
 - Politically impractical to change

