



AIR TRAFFIC BULLETIN PROCEDURES



A communication from the Director of Air Traffic Procedures, Mission Support Services
Federal Aviation Administration, U.S. Department of Transportation

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PIREP Solicitation — MVA vs MSAW — MSAW Expectations vs Function

***E,*R,*T: PIREP Solicitation – ATO TOP 5**

The ATO Air Traffic Procedures directorate has recently received several requests for clarification regarding the solicitation and dissemination of weather information. The questions all dealt with the minimum weather information that must be collected and disseminated by the controller.

While there is much guidance related to prioritization, controllers must rely on good judgement when prioritizing situations. Circumstances can and do change, and we are all responsible for safety.



...Controllers must provide the information in sufficient detail to assist pilots in making decisions pertinent to flight safety. (JO 7110.65, 2-6-2)

7110.65X 2-1-2 – Duty Priority

- a. Give first priority to separating aircraft and issuing safety alerts as required in this order. Good judgment must be used in prioritizing all other provisions of this order based on the requirements of the situation at hand.

REFERENCE– FAA Order JO 7110.65, Para 2-1-6 Safety Alert.

NOTE–Because there are many variables involved, it is virtually impossible to develop a standard list of duty priorities that would apply uniformly to every conceivable situation. Each set of circumstances must be evaluated on its own merit, and when more than one action is required, controllers must exercise their best judgment based on the facts and circumstances known to them. That action which is most critical from a safety standpoint is performed first.

This includes solicitation and dissemination of weather information. Controllers must be aware of weather conditions within their airspace at all times. As the weather changes or affects airspace, controllers must use the information known to them to contribute to the safety of the NAS.

- c. Provide and/or solicit weather information in accordance with procedures and requirements outlined in this order.
- NOTE– Controllers are responsible to become familiar with and stay aware of current weather information needed to perform ATC duties.*

Weather collection and dissemination are essential safety components within the NAS, so much so that PIREPs are an ATO “Top 5” Safety Issue. All controllers are implicated in this duty priority. Assisting pilots in safely arriving at their destinations is our mission and it is up to us to disseminate all useful information. This includes obtaining additional and time-critical information, such as weather information, and disseminating it appropriately. This is the intent of Duty Priority.

The following are examples that show instances when a controller should solicit a PIREP and disseminate weather information.

Example Situation	Expectation
<i>A facility with a TRACON and a tower...ground fog is covering the area...an aircraft arrives and gives the tower a base and tops report with no icing</i>	That one report would be disseminated through AISR and to the TRACON. The PIREP accurately captures the weather and would suffice for both the tower and TRACON.
<i>Same facility as above...there is ground fog on and around the airport...moderate turbulence reported 30 miles west</i>	Both the tower and TRACON would need to solicit and disseminate a PIREP in order to properly assess the hazard to navigation.

In order to properly assess the potential navigational hazards of weather, facilities with multiple operational areas, such as an En Route Center or large TRACON, may need to solicit and disseminate different PIREPs for each operational area.

Example Situation	Expectation
<i>A facility encompassing coast, plains, and mountain areas...an aircraft requests to deviate around weather which was reported by the previous controller</i>	The pilot is expecting that his deviation is understood by the controller. When you are able, you should provide the pilot a description of precipitation or other related weather phenomena ahead and any previously reported relevant PIREPs. Remember, you have information that the crew may need to safely navigate the weather. Do not keep it to yourself.

The litmus test for determining when to solicit a PIREP would be, “Has the facility collected and disseminated the most accurate available weather information to assist pilots in avoiding

potentially hazardous areas as they navigate through the NAS?” This meets the intent of 2-1-2, Duty Priority, as well as meets the requirements of Chapter 2, Section 6.

***E,*R,*T: “Area of Jurisdiction”**

Another issue came to light regarding terminology usage across publications, specifically, “your area of jurisdiction.” This phrase appears in many FAA documents and directives.

In JO 7110.65, when referring to “a controller,” “you,” or “your,” the phrase “area of jurisdiction” is always directed *at the controller’s airspace*.

Examples:

2-6-2. PIREP Solicitation and Dissemination

a. Solicit PIREPs when requested, deemed necessary or any of the following conditions exists or is forecast for *your area of jurisdiction*.

In addition, paragraph 2-6-2 d3(a) specifies terminals to relay all operationally significant PIREPS to the appropriate intra-facility positions.

2-1-14. Coordinate Use of Airspace

c. Assume control of an aircraft only after it is *in your area of jurisdiction* unless specifically coordinated or as specified by letter of agreement or a facility directive.

2-1-21. Traffic Advisories

6. When requested by the pilot, issue radar vectors to assist in avoiding the traffic, provided the aircraft to be vectored *is within your area of jurisdiction* or coordination has been effected with the sector/facility in whose area the aircraft is operating.

4-5-4. Lowest Usable Flight Level

If a change in atmospheric pressure affects a usable flight level *in your area of jurisdiction*, use TBL 4-5-2 to determine the lowest usable flight level to clear aircraft at or above 18,000 feet MSL.

***E,*R,*T: MVA vs MSAW—Expectation vs Reality**

ATSAP reports indicate a significant number of events in which aircraft are flying below the minimum vectoring altitude (MVA) resulting in MVA violations. However, controllers often report that they were not alerted by the minimum safe altitude warning (MSAW). FAA Order JO 7110.65, 2-1-6a provides the following guidance regarding the issuance of terrain and obstruction alerts.

7110.65X 2-1-6 – Safety Alert

a. Terrain/Obstruction Alert. Immediately issue/initiate an alert to an aircraft if you are aware the aircraft is at an altitude that, in your judgment, places it in unsafe proximity to terrain and/or obstructions. Issue the alert as follows:

PHRASEOLOGY—LOW ALTITUDE ALERT (call sign), CHECK YOUR ALTITUDE IMMEDIATELY. and, if the aircraft is not yet on final approach,

THE (as appropriate) MEA/MVA/MOCA/MIA IN YOUR AREA IS (altitude). FAA JO 7110.65, 2-1-6a.

MSAW is programmed to alert at ranges that may be much closer to terrain or obstacles than anticipated by controllers. Therefore, it is important for controllers to maintain vigilance when providing instruction to aircraft operating at or near MVAs. Many factors lead to these events, including inadvertent clearances below MVAs, aircraft performance resulting in faster or slower than expected maneuvers, aircraft descending below cleared altitudes, etc. While MSAW may help provide a heads up to imminent danger, controllers should not hesitate to intervene as soon as the situation is identified.

Facility Discussion

- When issuing clearances, how do you ensure aircraft will remain clear of MVAs?
- How do you maintain awareness of the MVAs in your sector?
- Would an aircraft flying below the MVA automatically trigger you to issue a low altitude warning? Why or why not?
- When issuing low altitude alerts, does it differ as the volume of traffic with which you are working changes?

(From the January 2018 ATSAP Briefing Sheet)

***E,*R,*T: MSAW Expectations vs. Function**

A frequent question posed by terminal facilities is, “why doesn’t CARTS/STARS provide the controller an MSAW alert when aircraft violates 1,000 foot vertical and 3/5 nm lateral obstruction clearances as noted by the 7110.65?”

The answer: To generate alerts, MSAW monitoring uses different altitude parameters than the MVA and Minimum IFR Altitude (MIA). These distinct parameters enhance the mechanism for alerting aircraft when they are currently in or are predicted to be in an unsafe situation while near

terrain or obstacles. Expanding these parameters to include breaches to the 7110.65 would dramatically increase nuisance alarms, thereby having the opposite effect on safety as controllers learn to ignore superfluous alarms.

7110.65X 2-1-6 – Safety Alert

NOTE 2– Recognition of situations of unsafe proximity may result from MSAW/E– MSAW, automatic altitude readouts, Conflict/Mode C Intruder Alert, observations on a PAR scope, or pilot reports.

- a. Terrain/Obstruction Alert. Immediately issue/initiate an alert to an aircraft if you are aware the aircraft is at an altitude that, in your judgment, places it in unsafe proximity to terrain and/or obstructions.

There are two types of MSAW monitoring in STARS: Approach Path Monitor (APM) and General Terrain Monitor (GTM). APM monitors for altitude violations along adapted warning slopes, ensuring the aircraft's altitude clears terrain and obstacles by distances considered safe by the FAA's MSAW/CA Safety Board (not MVA or MIA). GTM monitors altitudes based on 1/2nm x 1/2nm grid of bins with the highest terrain/obstacle in each bin. A current GTM will alarm if the track is currently within 500' of that bin's altitude. A predicted GTM will alarm if the track is predicted to be within 300' of that bin altitude along its current path. Consideration is also given for aircraft flying through bins adjacent to the violating bin. GTM also does not consider MVA or MIA. A track can violate one of these altitudes and may not violate the GTM parameters.

While automation is a valuable tool in alerting of unsafe conditions, it is not a replacement for good judgement and controller awareness.

The Air Traffic Procedures Bulletin (ATPB) is a means for headquarters to remind field facilities of proper application of procedures and other instructions. It is published and distributed on an as needed basis.

Articles must be submitted electronically in Microsoft® Word by the offices of primary responsibility with approval at the group level or above. Articles may be submitted throughout the year.

*In this publication, the option(s) for which a briefing is required is indicated by an asterisk followed by one or more letter designators, i.e., *T – Tower, *E – ARTCC, *R – TRACON, or *F – FSS.*

(Reference FAA Order JO 7210.3, Facility Operation and Administration, paragraph 2-2-9)

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