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A Communication from the
Vice President, System Operations Services

In this Issue:

Spring and Summer Operations

Thunderstorms and Interference

/*TRF/E During typical summer operations, with a high volume of air traffic, construction activity, and increased convective activity, there is a need for heightened awareness.

There is significant potential for a pilot to encounter a dangerous situation when flying during these conditions. The FAA's job is to help prevent that from happening.

Summer Operations and Runway Incursions

Circumstances that typically occur during summer months require our attention to prevent runway incursions. Some of these circumstances are as follows:

- Mowing operations adjacent to the runways and other movement areas.
- Various forms of precipitation or obstructions reduce controller and pilot visibility.
- Vegetation may create blind spots for aircraft.
- Glare caused by bright sunlight may reduce the visibility of a pilot or vehicle operator.
- Heavy rain and areas of standing water have the potential to cause hydroplaning that can adversely affect aircraft and vehicle stopping distances.

Planning

Good planning goes a long way to ensure safe and efficient air traffic operations during summer weather conditions.

Contact information and procedures for coordination with airport operators should be reviewed and updated. Many smaller airports see minimal traffic during the winter months with a significant increase in the spring. With increased use of the airport, the need for correct contact information becomes even more important.

Remember not all aircraft are equipped with weather radar. The information available to the controller may be more current and specific than information available to a pilot. Depending on the weather, pilots may request heading or altitude deviations.

Thunderstorms

Although we sometimes see thunderstorms during the winter, their frequency and intensity are increased during the spring and summer months.

Thunderstorms present many threats to aviators. In this article, we discuss some of the challenges that thunderstorms and associated weather patterns can create.

Turbulence

- Weather fronts with their associated change in wind direction and temperatures create turbulence, impacting aircraft close to the ground as well as at higher altitudes.
- As thunderstorms build, the internal up and downdrafts create turbulence that can cause severe gain or loss of altitude, sometimes both in quick succession.
- Turbulence can affect the ability to maintain a steady altitude. Normal altitude assignment rules apply. Assign an altitude to an aircraft only after the aircraft, previously at that altitude, is observed at or passing through another altitude separated from the first by the appropriate minima when severe turbulence is reported (JO 7110.65, Par. 5-5-6.b.1. and Par 6-6-2.a.)

Windshear and Microbursts

- Aircraft preparing to land or depart are in a crucial phase of flight. Due to the aircraft's proximity to the ground, there is little time to react to or recover from a loss of altitude, power, or control caused by windshear or microburst activity.
- Aircraft are increasingly being equipped with onboard windshear detection systems. When the system detects windshear, controllers may expect pilots to execute a maneuver to escape the effects of windshear by starting a maximum rate of climb until the conditions no longer exist.
- The pilot is counting on controllers, pilot weather reports (PIREPS), weather system processor, terminal doppler weather radar, and low-level wind shear equipment to provide the information necessary to make safety related decisions. The timeliness and accuracy of information can literally make the difference between life and death.

Icing Conditions

Aircraft icing is a significant hazard and can still occur in spring and summer.

Cumuliform clouds are more likely to produce serious ice formation than other clouds, particularly

if freezing rain is present. However, at altitudes above the freezing level, any layer of air with a narrow temperature dew point spread is a potential icing zone. Aircraft icing includes clear, rime, and mixed types.

There are several forecasts that contain warnings of icing. PIREPs are the only means of obtaining real-time information concerning icing conditions. This information provides the controller with a tool that could help prevent a life-threatening situation.

Some aircraft are extremely sensitive to airframe icing of any degree. Keep in mind that many smaller aircraft do not have deicing equipment.

Pilots may also experience carburetor icing this time of year. The warm air carries more moisture, increasing the potential for this scenario. This could be a factor in some of those rough running engine reports.

Soliciting and relaying PIREPs of all intensity of icing is required. Always disseminate relevant information to pilots, frontline managers, and other affected facilities.

Lightning

Thunderstorms produce lightning, and some storms have more lightning than others. There are a couple of hazards to aviation that are associated with lightning. The first hazard is a bolt of lightning. Lightning may strike an aircraft or a tower and send a surge of power through the equipment, which can knock out the power supply to airports, navigational aids, or lighting equipment. Most control towers have lightning protection equipment, but that does not negate the need for reasonable precautions when working in the tower during a storm.

Another hazard is night blindness. A pilot may experience a temporary inability to see after exposure to a flash of lightning. If this should happen during a crucial phase of flight, the pilot may request alternative action. For example, a pilot on approach may elect to go around rather than try to land with compromised vision. Night blindness might also prevent a pilot seeing traffic that might otherwise be easily seen.

Got PIREPs?

Always solicit PIREPS. The information one pilot shares is just what another pilot is looking for. Conditions such as windshear, icing, turbulence, bases, tops, and outside air temperature are several examples.

Interference

The abundant energy in thunderstorms can cause interference with equipment. Within facilities, this might often be noticed in the clarity of radio communications.

Another example of interference is magnetic disturbances that affect an aircraft's directional heading system. However, thunderstorms are not the only cause of this type of error. Magnetic disturbances that influence heading system alignment may also be created by buildings, equipment, vehicles, and rebar-reinforced surfaces. If it appears that an aircraft is not flying the assigned heading, advise the pilot. It could be the pilot has made a mistake, but it is also possible the aircraft is experiencing equipment errors due to magnetic disturbances.

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*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 – AFSS/FSS.*

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