

4-3-7. Low Level Wind Shear/Microburst Detection Systems

Low Level Wind Shear Alert System (LLWAS), Terminal Doppler Weather Radar (TDWR), Weather Systems Processor (WSP), and Integrated Terminal Weather System (ITWS) display information on hazardous wind shear and microburst activity in the vicinity of an airport to air traffic controllers who relay this information to pilots.

a. LLWAS provides wind shear alert and gust front information but does not provide microburst alerts. The LLWAS is designed to detect low level wind shear conditions around the periphery of an airport. It does not detect wind shear beyond that limitation. Controllers will provide this information to pilots by giving the pilot the airport wind followed by the boundary wind.

EXAMPLE-

Wind shear alert, airport wind 230 at 8, south boundary wind 170 at 20.

b. LLWAS “network expansion,” (LLWAS NE) and LLWAS Relocation/Sustainment (LLWAS-RS) are systems integrated with TDWR. These systems provide the capability of detecting microburst alerts and wind shear alerts. Controllers will issue the appropriate wind shear alerts or microburst alerts. In some of these systems controllers also have the ability to issue wind information oriented to the threshold or departure end of the runway.

EXAMPLE-

Runway 17 arrival microburst alert, 40 knot loss 3 mile final.

REFERENCE-

AIM, Para 7-1-24, Microbursts.

c. More advanced systems are in the field or being developed such as ITWS. ITWS provides alerts for microbursts, wind shear, and significant thunderstorm activity. ITWS displays wind information oriented to the threshold or departure end of the runway.

d. The WSP provides weather processor enhancements to selected Airport Surveillance Radar (ASR)-9 facilities. The WSP provides Air Traffic with detection and alerting of hazardous weather such as wind shear, microbursts, and significant thunderstorm activity. The WSP displays terminal area 6 level weather, storm cell locations and movement, as well as the location and predicted future position

and intensity of wind shifts that may affect airport operations. Controllers will receive and issue alerts based on Areas Noted for Attention (ARENA). An ARENA extends on the runway center line from a 3 mile final to the runway to a 2 mile departure.

e. An airport equipped with the LLWAS, ITWS, or WSP is so indicated in the Chart Supplement U.S. under Weather Data Sources for that particular airport.

4-3-8. Braking Action Reports and Advisories

a. When available, ATC furnishes pilots the quality of braking action received from pilots. The quality of braking action is described by the terms “good,” “good to medium,” “medium,” “medium to poor,” “poor,” and “nil.” When pilots report the quality of braking action by using the terms noted above, they should use descriptive terms that are easily understood, such as, “braking action poor the first/last half of the runway,” together with the particular type of aircraft.

b. FICON NOTAMs will provide contaminant measurements for paved runways; however, a FICON NOTAM for braking action will only be used for non-paved runway surfaces, taxiways, and aprons. These NOTAMs are classified according to the most critical term (“good to medium,” “medium,” “medium to poor,” and “poor”).

1. FICON NOTAM reporting of a braking condition for paved runway surfaces is not permissible by Federally Obligated Airports or those airports certificated under 14 CFR Part 139.

2. A “NIL” braking condition at these airports must be mitigated by closure of the affected surface. Do not include the type of vehicle in the FICON NOTAM.

c. When tower controllers receive runway braking action reports which include the terms medium, poor, or nil, or whenever weather conditions are conducive to deteriorating or rapidly changing runway braking conditions, the tower will include on the ATIS broadcast the statement, “**BRAKING ACTION ADVISORIES ARE IN EFFECT.**”

d. During the time that braking action advisories are in effect, ATC will issue the most recent braking action report for the runway in use to each arriving and departing aircraft. Pilots should be prepared for