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NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: January 5, 1981

Forwarded to:

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National Weather Service
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8060 13th Street
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SAFETY RECOMMENDATION(S)

A-80-139 and -140

On June 12, 1980, an Air Wisconsin, Inc., Swearingen SA-226 Metro crashed near Valley, Nebraska, killing 13 persons and seriously injuring 2 others. The aircraft encountered an area of severe thunderstorms while at an altitude of less than 6,000 ft and experienced a simultaneous loss of power to both engines because of massive water ingestion. During its investigation of the accident, the National Transportation Safety Board determined that the National Weather Service meteorologists at the Minneapolis Center Weather Service Unit were aware of the thunderstorms which had developed in the vicinity of the accident site and had briefed supervisory air traffic control personnel on the location and severity of the storm cells. In addition, the meteorologists were aware of convective SIGMET's which forecast the severe thunderstorm activity. Both meteorologists testified at the public hearing that they believed that the convective SIGMET's which were in effect described adequately the existing meteorological conditions. Therefore, no center weather advisories were issued to supplement the existing convective SIGMET's.

A review of the procedures which governed the issuance of center weather advisories indicated that there were no further criteria which would provide guidance for the issuance of such advisories. In this accident, the meteorologists were aware of both the severe intensities and the locations of the thunderstorm cells near Valley, Nebraska. This information was much more specific than the general areas covered by the most recent convective SIGMET. The Safety Board believes that a center weather advisory should have been issued to provide more detailed information on the thunderstorms and that the procedures governing the Center Weather Service Unit should have established more detailed criteria to govern the issuance of the advisories. At the minimum, the criteria should require that a center weather advisory be issued when the meteorological conditions forecasted in a convective SIGMET can be pinpointed in a more specific area than that described in the convective SIGMET or when the intensities of weather echoes are identified.

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AAR-80-15

In the hour before the accident, the National Weather Service Forecast Office in Omaha, Nebraska, observed severe weather echoes northwest of Omaha and received reports from observers in the Omaha-Fremont-Valley area on the severe nature of the storms. At 1520 c.d.t., a severe storm warning was issued for Dodge and Washington counties. However, that warning was not transmitted to the Omaha Radar Approach Control (RAPCON) or to the Federal Aviation Administration Flight Service Station at Eppley (Omaha) Airport. The Omaha RAPCON assumed control of the Air Wisconsin flight at 1536, and the Omaha Flight Service Station was in a position to relay weather information to the flight. According to procedures at the Omaha Forecast Office, severe storm warnings are to be transmitted to the Omaha RAPCON and to the Omaha Flight Service Station if the storm affects Douglas County. At 1520, the storm had not yet moved into Douglas County, so the air traffic facilities were not notified.

The Safety Board believes that arbitrary geographic boundaries should not be the determining factor which governs the transmission of significant weather intelligence to air traffic control facilities. Air traffic which is monitored by air traffic control facilities obviously ranges over a far wider area than set geographic boundaries. Therefore, air traffic facilities must be aware of the significant weather conditions in all immediate surrounding areas.

Therefore, the National Transportation Safety Board recommends that the National Weather Service:

Develop specific criteria for Center Weather Service Units which would govern the issuance of center weather advisories to update or supplement convective SIGMET's. (Class II, Priority Action)
(A-80-139)

Require that all severe weather warnings and significant weather radar observations issued by a National Weather Service office expected to affect the airspace of an air traffic control approach control facility be transmitted by that office to the facility by the most expeditious means available. (Class II, Priority Action)
(A-80-140)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in these recommendations.

James B. King
for By: James B. King
Chairman