NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington D.C. 20594

Meteorological Factual Report
NYC99MA178

A. ACCIDENT

Location: Near Martha's Vineyard, Massachusetts
Date: July 16, 1999
Time: About 2140 Eastern Daylight Time
Aircraft: Piper PA-32R-301, N9253N

B. WEATHERGROUP

A Weather Group was not established.

C. DETAILS OF INVESTIGATION

Note: All times are stated as Eastern Daylight Time (EDT) based on the 24-hour clock unless otherwise noted. All heights above mean sea level (MSL) unless noted. Heights in surface weather observations and terminal forecast above ground level (AGL). All directions with reference to true north unless noted. Z = Coordinated Universal Time. EDT = Z - 4 hours. McIDAS - Man computer Interactive Data Access System. McIDAS is an interactive meteorological analysis and data management computer system. McIDAS is administered by personnel at the Space Science and Engineering Center at the University of Wisconsin at Madison. Data are accessed and reviewed on a Hewlett Packard 9000/C110 Workstation running McIDAS-X software.

Surface Weather Observations

Caldwell, New Jersey (KCDW)

1953 ... Clear; visibility 4 miles, haze; winds 230 degrees at 4 knots, temperature 33 degrees C; dew point 18 degrees C; altimeter setting 30.07 inches of Hg.
2053 ... Clear; visibility 5 miles, haze; winds 220 degrees at 5 knots; temperature 31 degrees C; dew point 19 degrees C; altimeter setting 30.08 inches of Hg.

White Plains, New York (KHPN)

2045 ... 7,500 feet broken, 15,000 feet overcast ; visibility 5 miles, haze; temperature 28 degrees C; dew point 22 degrees C; winds 140 degrees at 4 knots; altimeter setting 30.08 inches of Hg.

Bridgeport, Connecticut (KBDR)

2054 ... Clear; visibility 8 miles, haze; temperature 27 degrees C; dew point 21 degrees C; winds 230 degrees at 4 knots; altimeter setting 30.08 inches of Hg.

Martha's Vineyard, Massachusetts (KMVY)

1953 ... Clear; visibility 6 miles, haze; winds 240 degrees at 7 knots; temperature 23 degrees C; dew point 20 degrees C; altimeter setting 30.09 inches of Hg.
2053 ... Clear; visibility 8 miles; winds 250 degrees at 7 knots; temperature 23 degrees C; dew point 19 degrees C; altimeter setting 30.09 inches of Hg.
2153 ... Clear; visibility 10 miles; winds 240 degrees at 10 knots gusts to 15 knots; temperature 24 degrees C; dew point 18 degrees C; altimeter setting 30.10 inches of Hg.

There is an Automated Surface Observing System (ASOS) at KMVY. ASOS data are edited and augmented by Air Traffic Control personnel in the Air Traffic Control Tower. The service standard at KMVY is Service Level C.
Source: National Weather Service (NWS) Eastern Region Headquarters, telecon, 10/21/99.

Service Level C is a service in which the human observer, usually an air traffic controller, augments or adds information to the automated observation. Service Level C also includes backup of ASOS elements in the event of an ASOS malfunction or an unrepresentative ASOS report. In backup, the human observer inserts the correct or missing value for the automated ASOS elements. This service is provided by air traffic controllers under the Limited Aviation Weather Reporting Station (LAWRS) process, FSS and NWS observers, and, at selected sites, Non-Federal Observation Program observers.

SERVICE **LEVEL** C
Service Level C consists of all the elements of Service Level D **(see** below) plus augmentation and backup by a human observer or an air traffic control specialist on location nearby. Backup consists of inserting the correct value if the system malfunctions or is unrepresentative. Augmentation consists of adding the elements listed below, if observed:

Thunderstorms
Tornadoes
Hail
Virga
Volcanic ash
Tower visibility
Operationally significant remarks as deemed appropriate by the observer

During hours that the observing facility is closed, the site reverts to Service Level D.

SERVICE LEVEL D
This level of service consists of an ASOS continually measuring the atmosphere at a point near the runway. The ASOS senses and measures the weather parameters listed below:
Wind
Visibility
Precipitation/Obstruction to vision
Cloud height
Sky cover
Temperature
Dew point
Altimeter

Source: Aeronautical Information Manual (February 1998).

The ASOS Observation and ASOS Systems Log are contained as Attachments 1 - 6.

The Station Inspection Report for September 10, 1998 and the ASOS sensor location diagram is contained in Attachments 7 and 8.

Nantucket, Massachusetts (KACK)

1953 ... Clear; visibility 3 miles, mist; winds 240 degrees at 12 knots; temperature 21 degrees C; dew point 20 degrees C; altimeter setting 30.09 inches of Hg.
2053 ... Clear; visibility 4 miles, mist; winds 240 degrees at 11 knots; temperature 21 degrees C; dew point 20 degrees C; altimeter setting 30.10 inches of Hg.
2153 ... Clear; visibility 4 miles, mist; winds 240 degrees at 12 knots; temperature 21 degrees C; dew point 20 degrees C; altimeter setting 30.11 inches of Hg.

For KACK:
Time Visibility (miles) and Present Weather
1353 10