(1) Automated "REMARKS."

[a] Density Altitude.

[b] Variable Visibility.

[c] Variable Wind Direction.

(2) Manual Input "REMARKS."

[a] Sky Condition.

[b] Visibility.

[c] Weather and Obstructions to Vision.

[d] Temperature.

[e] Dew Point.

[f] Wind; and

[g] Altimeter Setting.

EXAMPLE–

"Remarks ... density altitude, two thousand five hundred ... visibility variable between one and two ... wind direction variable between two four zero and three one zero ... observer ceiling estimated two thousand broken ... observer temperature two, dew point minus five."

d. Automated Surface Observing System (ASOS)/Automated Weather Observing System (AWOS) The ASOS/AWOS is the primary surface weather observing system of the U.S. (See Key to Decode an ASOS/AWOS (METAR) Observation, FIG 7–1–7 and FIG 7–1–8.) The program to install and operate these systems throughout the U.S. is a joint effort of the NWS, the FAA and the Department of Defense. ASOS/AWOS is designed to support aviation operations and weather forecast activities. The ASOS/AWOS will provide continuous minute-by-minute observations and perform the basic observing functions necessary to generate an aviation routine weather report (METAR) and other aviation weather information. The information may be transmitted over a discrete VHF radio frequency or the voice portion of a local NAVAID. ASOS/AWOS transmissions on a discrete VHF radio frequency are engineered to be receivable to a maximum of 25 NM from the ASOS/AWOS site and a maximum altitude of 10,000 feet AGL. At many locations, ASOS/AWOS signals may be received on the surface of the airport, but local conditions may limit the maximum reception distance and/or altitude. While the automated system and the human may differ in their methods of data collection and interpretation, both produce an observation quite similar in form and content. For the "objective" elements such as pressure, ambient temperature, dew point temperature, wind, and precipitation accumulation, both the automated system and the observer use a fixed location and time-averaging technique. The quantitative differences between the observer and the automated observation of these elements are negligible. For the "subjective" elements, however, observers use a fixed time, spatial averaging technique to describe the visual elements (sky condition, visibility and present weather), while the automated systems use a fixed location, time averaging technique. Although this is a fundamental change, the manual and automated techniques yield remarkably similar results within the limits of their respective capabilities.

1. System Description.

(a) The ASOS/AWOS at each airport location consists of four main components:

(1) Individual weather sensors.

(2) Data collection and processing units.

(3) Peripherals and displays.

(b) The ASOS/AWOS sensors perform the basic function of data acquisition. They continuously sample and measure the ambient environment, derive raw sensor data and make them available to the collection and processing units.

2. Every ASOS/AWOS will contain the following basic set of sensors:

(a) Cloud height indicator (one or possibly three).

(b) Visibility sensor (one or possibly three).

(c) Precipitation identification sensor.

(d) Freezing rain sensor (at select sites).

(e) Pressure sensors (two sensors at small airports; three sensors at large airports).

(f) Ambient temperature/Dew point temperature sensor.

(g) Anemometer (wind direction and speed sensor).

(h) Rainfall accumulation sensor.

(i) Automated Lightning Detection and Reporting System (ALDARS) (excluding Alaska and Pacific Island sites).