MMCR Automatic Shutdown Procedures

I. Purpose:

This section describes the steps involved in automatic shutdown procedures of OS/2 and Solaris computer systems of the ARM 8mm Cloud Radar. There are three ways the computer systems can shutdown automatically: A) a shutdown message from the Site Data System (SDS); B) UPS battery time too low; and C) an extreme indoor temperature (too high or too low).

II. Cautions and Hazards:

- There are no hazards.

III. Procedure:

A. Shutdown Message from The Site Data System (SDS):

1. The SDS tells the Solaris computer to shut down by placing a file in the computer's incoming directory.

2. The Solaris process script then detects the file and tells the OS/2 machine to shutdown.

3. After commanding the OS/2 machine to shutdown, the Solaris computer shuts itself down

B. Low UPS Battery Time:

1. One of the OS/2 monitor threads keeps track of the UPS battery state. When this OS/2 thread detects that the UPS battery cannot handle the load any longer, the OS/2 machine stops the radar.

2. The OS/2 tells the Solaris computer to shutdown.

3. Finally, the OS/2 shuts itself down.

NOTE: The operator can set the battery time in the file, C:\cloudrdr\config\monitorVals.txt, which is in ASCII format. DO NOT CHANGE THE TEXT. When necessary, change ONLY the numeric values, which is in seconds.

C. Extreme Indoor Temperature (too high or too low):

1. The AC power to the UPS is in series with a thermostat switch. This switch opens when the equipment rack temperature exceeds the limit, cutting off power to the UPS.

NOTE: The thermostat temperature is set a few degrees below the high temperature where the software shutdown starts. Like the battery time, the software shutdown temperatures can be found in C:\cloudrdr\config\monitorVals.txt. The values are in degrees C.

2. The OS/2 monitor watches the indoor temperature and will perform the same shutdown procedure as described above if the value reaches too high or too low.

3. At the end of the software shutdown, the output power from the UPS is turned off.

4. When the temperature returns to an acceptable level, the thermostat will restore the UPS, initiating a restart of both computers.

IV. References:

1. United States Department of Commerce (NOAA/ERL, Environmental Technology Laboratory, System Demonstration and Integration Division). Operation and Maintenance Manual for ARM's 8mm Cloud Radar, pp. 4-8. January 1998. MAN(MMCR)-001.001.