

**Radar Meteorological Set – Next Generation Radar (NEXRAD), (WSR-88D).
FAC: 1341**

CATCODE: 149627

OPR: AFWA/A5/A8, MAJCOM/A3W

OCR: MAJCOM/A6

1.1. **Description.** The WSR-88D provides range azimuth and elevation data on precipitation areas within 400 km (240 mi) and produces images that can make up a mosaic of real-time weather data for the entire nation, a region, or a single view of weather data for one particular location. This Tri-Agency managed system provides critical national, regional, and local weather data for forecasting and warnings through the NWS, FAA, DoD, and the Air Force. The data provides aviation weather awareness and warnings to aircrews for severe weather avoidance.

1.2. **Requirements Determination.** The Weather Surveillance Radar, 1988, Doppler (WSR-88D), is a U.S. Government Tri-Agency managed system (Department of Transportation, Department of Commerce, and DoD) consisting of 159 radars located in the CONUS and Pacific and European areas. The Air Force, through its executive agent AFWA, has responsibility for 26 of the 159 radars. Obtain further requirements determination information through AFWA/A5/8 or MAJCOM/A3 weather staff.

1.3. **Scope Determination.** The Doppler weather surveillance radar consists of three shelters containing a transmitter-receiver and electronic control amplifier, display console with power supply, and associated equipment. The antenna is sited to provide maximum separation and minimum obstruction by buildings, terrain, and power lines. The WSR-88D radar set user display consists of an open principal user processor (OPUP) approximately the size of a standard desktop computer (SDC). Some units/locations have an OPUP with a 2 ft x 4 ft x 6 ft equipment rack along with three to 11 SDC workstations.

1.4. **Dimensions.** The three shelters are located around the radar tower with two requiring environmental controls for the equipment. One shelter contains a backup power generator. The antenna is sited to provide maximum separation and minimum obstruction by buildings, terrain, and power lines. Obtain further information through AFWA/A5/8 or MAJCOM/A3 weather staff.

1.5. Design Considerations.

1.5.1. **Communications Requirements.** Specific to location but requires connections to the GIG and commercial/Class A phone lines. Contact AFWA/A8F or NWS Radar Operations Center for specific communications requirements.

1.5.2. **Power Requirements (includes backup power and UPS).** Reliable/stable 120/208 VAC, 60 Hz, 3-phase, 4-wire electrical power with automatic switching to back-up power. Ensure one of the shelters on site contains an 80 kW generator for emergency power. Another shelter, the Transition Power Maintenance Shelter, should be self-contained, environmentally controlled, consisting of a cabinet containing a bank of batteries, a work area containing tools, and a work bench.