

Improved Solar Observing Optical Network (ISOON). FAC: 1341

CATCODE: 149XX6

OPR: AFWA/A5/A8, MAJCOM/A3W

OCR: MAJCOM/A6

1.1. **Description.** ISOON is a 24/7 remote monitored optical telescope, solar observing system that collects and sends solar data to space weather forecast centers. The solar observations provide essential information about the size, brightness, energy, and location of eruptive events on the solar disk providing warnings and advisories for solar proton events and geomagnetic activity. These proton events affect high altitude and manned space flight, as well as auroral and polar region radar, communications systems, and national and regional electric power grids.

1.2. **Requirements Determination.** Obtain further requirements determination information through AFWA/A5/8 or MAJCOM/A3 weather staff.

1.3. **Scope Determination.** The operations building consists of a 6 m (20 ft) x 6 m (20 ft) structure with an additive front sloped section 4.6 m (15 ft) x 2.4 m (8 ft). The facility area has two seismic pads outside and one inside the building. The ISOON maintenance and storage building consists of a 6 m (20 ft) x 6 m (20 ft) structure. Ensure these buildings are environmentally controlled to maintain 60°F to 89°F and 30 to 60 percent relative humidity (non-condensing). The operations building contains a seismic pad, the telescope, a Sun work station, UPS, and two electronics racks.

1.4. **Dimensions.** The secured area is 46 m (150 ft) x 46 m (150 ft).

1.5. Design Consideration.

1.5.1. **Communications Requirements.** A dedicated communication line connected to the GIG and DSN Class A worldwide capable landlines.

1.5.2. **Power Requirements.** Each ISOON requires 7,000 watts' total electrical power consisting of 4,500 watts on a 208 V, 60 Hz single phase circuit and 2,500 watts on a 110V, 60 Hz circuit and a backup power system to include an UPS. The requirement for emergency power is determined under AFI 32-1063.

1.5.3. **Special Features.** The front of the ISOON building faces away from the equator, with no East or West obstructions.