



Detect the Difference

5793 Widewaters Parkway Dewitt, NY 13214
Phone: 315-445-0550 Fax: 315-445-9401

Ken Rogers
Program Manager
Sensis Corporation
315-445-5011

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This is an explanation to item 6b and 6c in the application form 442.

The antenna system is located at the Minneapolis-St. Paul International Airport (MSP).

The transmit locations identified in this application are needed to perform the characteristics necessary to track aircraft via transponder information.

This application contains three different transmitter frequencies.

Referencing Figure 1, the marked location, X1, is a Reference Transmitter (RefTran) location. The location of this transmitter is crucial since the entire antenna system works on a line-of-sight basis and the RefTran provides a 1090MHz signal to keep the entire system in synchronization. This is critical to receive only and the (R/T) receive-transmit units. NOTE: Location, X2, originally pursued as a reference transmitter location, has been dropped from consideration and is not included in this application.

Referencing Figure 1, the marked six (6) locations, 1, 4, 5, 10, 14, 17, are (receive-transmit) transmitter locations (1030MHz). The placement of these antennas is crucial since these units interrogate aircraft transponders for identification information. The locations cover the complete movement area (runways, taxiways) of the airport which is necessary in order to provide a situational awareness to the airlines for increased efficiency for operational purposes. Note: Location, 12, originally pursued as a transmitter location, has been dropped from consideration and is not included in this application.

Referencing Figure 1, the marked three (3) locations, 6, 7, WR1, are wireless transceiver locations (5.725GHz-5.85GHz). The placement of these antennas is crucial since these units are used to transceive data from remote glide slope locations (6, 7) which contain interrogated aircraft transponder information. The location, WR1, is the central transceive location which collects the remote data and is hardwired to a Central Processing System in the airport terminal building. The locations cover the northern movement area (runways, taxiways) of the airport which is necessary in order to provide a situational awareness to the airlines for increased efficiency for operational purposes.

The remaining antennas of this system are receive-only and therefore not listed in the application.

FIGURE 1

