

This combined synopsis/solicitation is hereby amended to answers questions received from potential offerors and extend the date for receipt of proposals.

A) Provide answers to questions as follows:

1. QUESTION: With the extension of the proposal due date, we would greatly appreciate an additional opportunity to visit the site. Is this possible during the week of May 4-8?

ANSWER: Due to scheduling conflicts, an additional site visit is not possible.

2. QUESTION: Is the axial rotation axis on the movable and/or stationary horn to be powered and controlled and reported by the vendor's controller software through the GUI, or is it only required to be able to be rotated by hand with no reporting of position. Is it set to a static position once prior to the simulation? Is there a minimum increment of rotation required?

ANSWER: The axial rotation of the movable and stationary horns will be done by hand with no reporting of position by vendor software. The horns will be set to static rotational positions prior to a simulation. The rotation of the horns will be achieved by waveguide rotary joints which allow continuous angles of rotation.

3. QUESTION: Is the X and Y command meant to be the desired vertical or horizontal position of the aperture of the horn?

ANSWER: The X and Y commands are the desired positions of the horn aperture along the horizontal and vertical rails respectively.

4. QUESTION: What is the frame of reference for the X & Y commands if you use curvilinear rails?

ANSWER: For curvilinear rails the positioning of the movable horn to coordinates (X,Y) is accomplished by sliding the horn by X inches along a curvilinear line that is horizontal and passes through the center of the working area ("+" point in working area in figure 1.1 of specifications, "+" point is X=0,Y=0), and then sliding the curvilinear horizontal line by Y inches along the two outer vertical curvilinear rails (figure 1.2 of specifications).

5. QUESTION: Is an X or Y command still to be considered vertical or horizontal travel with the vendor calculating the projection along the curve?

ANSWER: No, the X,Y commands are travel commands along the curvilinear axes (see answer 4)

6. QUESTION: Can the simulation computer make that calculation before sending the analog commands if the equations are supplied by the vendor?

ANSWER: The simulation computer will provide the X,Y commands (as voltages) that will result in the positioner system moving the movable horn along the horizontal and vertical rails. The simulation computer will calculate the appropriate X,Y commands for rectilinear or curvilinear positioning configurations.

7. QUESTION: When using curvilinear rails the gain horn phase center is always at the same radial distance from the focal point. When using linear rails with an AZ/EL gimballed system for squint, this will not be so unless a radial slide is used in the Z direction. Question is, does the phase center of the gain horn need to be at a fixed radial distance from the focal point as it traverses in X and Y?

ANSWER: No, the phase is not a critical parameter.

8. QUESTION: The specification refers to a waveguide rotary joint. Is this the responsibility of the vendor or the customer? If it is the vendor's responsibility, is a coaxial rotary joint acceptable? If it is the vendor's responsibility and it has to be a waveguide rotary joint then knowledge of the horns to be used across the 4 to 40 GHz range is needed. Waveguide rotary joints over that frequency range are not available.

ANSWER: A waveguide rotary joint is required. For different frequency bands, different rotary joints will be used. The receptacle to mount the horn (movable or stationary) must allow interchangeability of rotary joints for different frequency bands. One end of the rotary joint will attach to the horn antenna and the other end will attach, via an adaptor, to an RF coax line. The vendor is responsible for providing the rotary joint for one frequency band (preferably in the 8GHz-18GHz range). The positioner system however must allow other rotary joints, for different bands, to be used.

9. QUESTION: Is 220VAC, 1-phase, 60 Hz power available?

ANSWER: 3-phase, 120VAC, 60Hz power is available. This can be used to obtain 207VAC, single phase, 60Hz.

10. QUESTION: Is there any operational requirement for the minimum distance between the centers of the two horns vertically?

ANSWER: For the simulation, the smaller the minimum distance the better. However, no minimum value is specified.

11. QUESTION: Frequency of operation is specified as 4-40 GHz. But mounting bracket for a WR90 waveguide is requested, which is X-Band (8.2-12.4 GHz only). Further, RF coaxial cables with SMA connectors are requested. This will not cover 4-40 GHz frequency range. Can you provide further guidance to clarify these apparent conflicts?

ANSWER: The 4-40GHz range is not required for a single horn antenna, waveguide assembly. Different antennas, waveguides, and coax cables will be required for different frequency bands in the 4-40GHz range. For purposes of acceptance testing of the X-Y Positoner system, the WR90 waveguide with SMA connectors was specified. The vendor is required to provide a representative horn antenna and wave guide mounting system. The key requirement is that different horn antennas, waveguide mounting brackets and coax cables (in the 4-40GHz range) should be configurable in the X-Y positioner assembly.