

Minutes of Pre-Bid Conference (PBC) held on 04-09-2023 for proposed procurement of “Single Crystal X-ray diffractometer with high end large area detector and low temperature device attachment” – 1 No.

As scheduled (PBC) has been conducted on 12-09-2023 for proposed procurement of Single Crystal X-ray diffractometer with high end large area detector and low temperature device attachment

Chairpersons / Members of the Technical Sub Committee (TSC) present during PBC including domain experts present during PBC:-

1. **Dr. N Lingaiah, Chairperson**
2. **Dr. Sreepriya V, Member**
3. **Dr. Pratyay Basak, Member**
4. **Dr. Jithender Reddy, Member**
5. **Shri D Venkateshwar Rao, Member**
6. **IO/PL - Dr. B. Sridhar**

Representatives of the following firm attended the PBC:

1. IR TECH

The following points were discussed during the PBC:

The major specifications encompassing “A” and “B” as listed in the tender document were fine with the firm.

Query raised by M/s. IR TECH and response of CSIR-IICT:

Query-1:

Under Point number 3 in spec sheet (**X-ray Detector & Beam Optics**)

- a) The active area of the detector should be 100 x 100 mm or larger without any dead region-

M/s. IR TECH requested the above point to be changed to “The active area of the detector should be 75 x 75 mm or large”

IICT Response:

Our Center for X-ray Crystallography, CSIR-IICT is the central facility which supports the needs of internal research groups and industry partners in the specialized domain of single crystal structural analysis. We usually deal with crystals which are very small and weakly diffracting that require high end detector with large active area, as it offers more advantages with respect to faster data collection times, covering larger reciprocal space for Cu radiation, large sample to detector distance, solving high unit cell structures, very small, weakly diffracting crystals, twinned structures and high resolution data with better S/N of reflection particularly for charge density studies.

Hence, based on our requirements, the specification cannot be modified.

Query 2:

Under Point number 3 in spec sheet (**X-ray Detector & Beam Optics**)

b) Should have a high-signal-to-noise ratio for single crystal frame data collection suitable for both Mo and Cu radiation having a large active area with pixels $\leq 200\mu\text{m} \times 200\mu\text{m}$ supported by Shutter-less mode for fast data collection.

M/s. IR TECH mentioned that their pixel size is $100\mu\text{m} \times 100\mu\text{m}$ which gives a huge advantage when working close to a crystal. Also since this is Direct Photon Conversion so the Noise is also almost zero leading to very large S/N.

IICT Response:

c) Your specification complies with our requirements. Hence, there is no need to modify the specification.

Query 3:

Under Point number 3 in spec sheet (**X-ray Detector & Beam Optics**)

d) Detective Quantum Efficiency (DQE) must be $\geq 90\%$ for both Cu & Mo radiations.

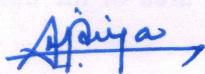
M/s IR TECH requested to change this to 60% or more for Mo and 90% or more for Cu (Our Mo DQE is 60% and Cu DQE is 99%).

IICT Response:

The proposed instrument has two radiation sources Cu and Mo and we require a higher Detective Quantum Efficiency (DQE) for both the Mo and Cu radiations as it is essential for meeting different varieties of molecules such as organic, inorganic, organometallics, hybrids and complexes. The higher DQE value provides better intensity count statistics and also captures weaker reflections better in particular with Mo radiation.

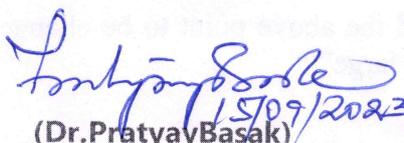
Hence, based on our requirements, the specification cannot be modified.

All the other tender terms remain unchanged. Bidders may please submit their bids accordingly.



(Dr. Sree Priya Vedantam)

Member


15/09/2023

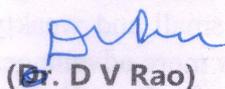
(Dr. Pratyay Basak)

Member


15/09/2023

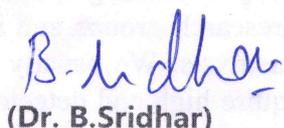
(Dr. Jithender Reddy)

Member



(Dr. D V Rao)

Member



(Dr. B. Sridhar)

I/O


15/9/2023

(Dr. N Lingaiah)

Chairperson