

Attachment 2-Statement of Work

Subject: Replacement Power Distribution Unit

Award Type: Firm Fixed Price

Period of Performance: Complete by 03/31/2023

NRAO Technical POC: Matthew McCleary, NRAO Data Center Manager, 575-835-7262
David Schafer, NRAO Electrical Engineer, 575-835-7288
David Halstead, NRAO CIO, 434-296-0292

NRAO Administrative POC: John P. Lagoyda, Business Manager, 575-835-7318

Scope of Services:

National Radio Astronomy Observatory (NRAO) operates the Very Large Array and the Very Long Baseline Array out of the NRAO Domenici Science Operations Center (DSOC), 1003 Lopezville Road in Socorro, NM, located on New Mexico Tech (NMT) Campus. NRAO is a program of the National Science Foundation, operated by Associated Universities, Inc. under a Cooperative Agreement.

Vendor will propose and install a replacement for an active Power Distribution Unit (PDU) for the DSOC Data Center as informed by the attached design document. The building was built in 1987 and occupied in 1988, with the current PDU having been installed at that time.

Vendor is required to provide a price with itemized breakdown (time, materials) for PDU removal and installation, a timeline for delivery and installation (including duration of planned power outage to room), and contractor disposal of legacy unit upon acceptance of new unit by NRAO.

Be aware that NRAO has certain high visibility commitments throughout the year that would preclude data center downtime. This consideration will require close coordination with observatory operations during the project and downtime planning phase. NRAO will provide those dates at the time of contract negotiation.

Minimum requirements for PDU:

- 150kVA 3-phase PDU, 480V input and 208V/120V output
- 84 breakers with option of increased capacity
- Network based monitoring for power usage per circuit
- Front panel display
- PDU equipment manufacturer/model must equal or better than equipment shown in Electrical Data Center Power Plan Sheet E-102 (SCHNEIDER ELECTRIC APC INFRASTRUXURE PDU MODEL # PDPBI50G6F 480V:208V)
- Proposals shall include dimensional drawings and placement of all proposed equipment (see Electrical Design Pkg Drawing ver.2 document, Sheet E-102, page 4)

Installation / support requirements:

- Installation of in-building electrical wiring to support replacement PDU
- Re-use of existing input feed from 1st floor UPS where feasible
- Plan for using installed power infrastructure connecting the PDU to the racks:
 - Re-use of existing cabling where feasible and within industry code
 - Coordinate location of new PDU in field with client prior to commencing work
- Successful vendor shall obtain any applicable permits in coordination with NMT Facilities Management Department
- Scheduling of work with NRAO is extremely important to minimize data center down time, operational interruptions, and periods of operational necessity
- Vendor shall ensure adequate supplies, components, spare parts, tooling and manpower are provided on site during installation period
- Vendors will provide necessary levels of technical and supervisory labor at job site meeting required regulatory certification/ licensing

NRAO will assist vendor in obtaining current building information from the building owner, New Mexico Tech, as well as building power usage information from utility bills.

Travel:

Travel costs are to be included in the Firm Fixed Price proposal. Reasonable expenses for travel should be in accordance with NRAO travel policies and procedures (per 2 CFR part 200.475 – Travel costs).

<https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200/subpart-E/subject-group-ECFRd1f39f9b3d4e72/section-200.475>

Invoicing Schedule:

Invoice to be submitted to the NRAO Administrative POC upon completion & submittal of final installation.

Payments:

Payment will be within 30 days of submission of the approved invoice.

Progress payment requirements must be negotiated prior to contract.