Stable Isotope Production and Research Center (SIPRC) Ion Source High Voltage (HV) Cabinet

Expression of Interest Overview

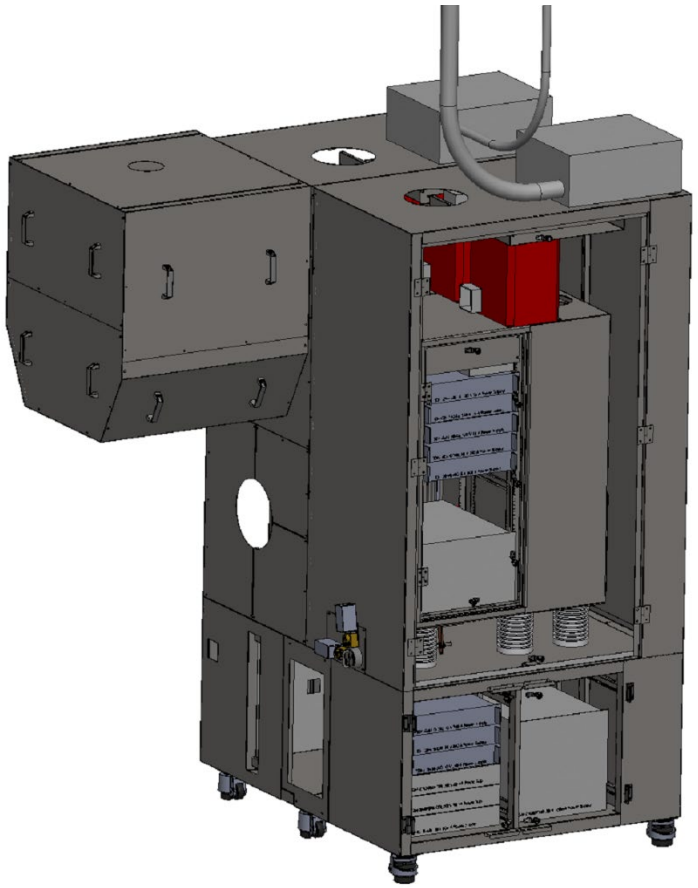
UT-Battelle (the company) is seeking an Expression of Interest (EOI) for procurement of ten (10) assembled Electromagnetic Isotope Separator Ion Source High Voltage Cabinets. These cabinets will be delivered to Oak Ridge National Laboratory (ORNL) in support of a DOE funded construction line-item project. The company plans to install ten (10) Electromagnetic Isotope Separators within a new facility currently being constructed (estimated construction completion mid-year 2025). The scope of work is to fabricate, procure commercial components, assemble, factory acceptance test, and store ten (10) Ion Source High Voltage Cabinets in parallel with the facility construction.

The Ion Source High Voltage cabinet RFP is expected to be issued in June of 2022, with work to begin soon after contract award. The award will be a single, competitive fixed price construction subcontract with progress payments. All interested firms should provide contact information (Name, Email and contact number) for further correspondence as part of their response.

Disclaimer: This EOI neither constitutes a solicitation, Request for Proposal (RFP), Invitation for Bid, or promise to issue an RFP in the future, nor does it restrict UT-Battelle to an ultimate acquisition approach. This EOI is issued solely for information and planning purposes and should not be construed as a commitment of any kind. EOI submission is not required to be considered for inclusion on the invitation to bid at a later date.

SCOPE – The scope includes refinement of final design for manufacturing, fabrication, procurement of commercially available components, factory acceptance testing, storage as needed and delivery of an Ion Source High Voltage Cabinet. The Ion Source High Voltage Cabinet consists of custom sheetmetal fabrications that enclose AC power distribution, control electronic, pneumatic, chilled water equipment, and toxic/hazard gas handling equipment at both ground potential and installed on a high voltage equipment platform. The high voltage platform is biased up at 50 kVDC from ground and includes 208 VAC 3-phase electrical distribution system provided through isolation transformers. The design of this equipment is mature with functional prototypes in operation. Any design modification requests must be compatible with existing equipment. This enclosure is a component of a larger system for research and development at the ORNL. The Specification which will be provided with the RFP will outline functional requirements of the system, define the process for refining the final design, include schematics, and list equipment to be procured and integrated into the cabinet assembly by the Seller.

Figure 1 depicts the conceptual layout of the ion source cabinet.



The cabinet design is complete but will be refined as process improvements are learned. Final high-level design drawings, solid models, schematics, build specifications, detailed parts list (quantities), and Factory Testing requirements will be included as part of the RFP. Not all components will have detailed fabrication drawings available, but the Vendor will have the solid model from which to generate fabrication drawings. Equipment specifications will include physical descriptions, electrical services, high voltage platform dimensions/requirements, and utilities. Standard safety, documentation, and quality assurance requirements will be outlined within the specification package.

Key areas of experience to support the Ion Source High Voltage Cabinet include:

- UL Panel Shop with experience fabricating systems to the UL 61010 standard and producing NRTL-listed systems with 208V-3ph, 240V-3ph, and 24 VDC control systems.
- Sheetmetal fabrication and design capabilities (SolidWorks is preferred design package)
- Experience fabricating of electrical cabinet enclosures with high voltage platforms with 50 kVDC or greater isolation transformers.
- Mechanical installation within cabinet enclosures (air cooled chillers, compressed hazard gas handling systems, ventilation systems, pneumatics, hydronics, and exhaust systems).
- Experience handling Export Controlled Information as defined by US-DOE and US-Dept of Commerce. Note the designs and equipment are not subject to International Traffic in Arms Regulations (ITAR), but similar information controls are required.

SUBMITTAL REQUIREMENTS – The EOI submittal requirements consist of a narrative summary overview of up to maximum two (2) pages in length. The EOI response shall address the following:

- Main and branch fabrication shop location(s) – describe capabilities of the fabrication shop(s) that would lead the fabrication with special emphasis on local or regional presence.

- DOE/Federal Work Experience – summary shall identify relevant experience preferably working on a federal build/assembly project.

- Provide examples of two (2) projects of similar size, scope, type, and function.

- Describe your methodology to environment, safety, health, and quality (ESH&Q) principles and how your company integrates ESH&Q principles into day-to-day operations in an industrial facility.

- Expected Proposal Development Duration - Bidder shall provide an estimated number of weeks after receiving the RFP to develop and submit a proposal.

- Company name, key contact, and address and Contact information for Bidding process

- Provide proof of required certifications or accreditation which lends credibility to work performance.

- Include any relevant COVID induced supply chain issues or other difficulties experienced that will be applicable to project execution.

Responses Due: All responses will be electronic format and emailed to Terri Cleveland (clevelandtd@ornl.gov). All responses must be received no later than 12:00 PM EST on March 31, 2022. Additional questions should be submitted with response.