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www.m-werc.org

Midwest Energy Research Consortium
Electromagnetic Semi-Anechoic Chamber Project
Request for Proposal

Submit proposals to purchasing@m-werc.org

11/20/20
Purchasing

Organizational background

The Midwest Energy Research Consortium (M-WERC) is a 501(c)3 organization promoting research, innovation, and talent development in energy power and controls in the Midwest. Over its 10-year existence, M-WERC has built a network of 100 members and partners to support the economic development needs of the Energy Power and Controls (EPC) sector in Wisconsin. The EPC Sector is critical to Wisconsin's economy. The growing sector represents roughly 900 companies, $38 billion in annual sales, and employs over 100,000. Collaboration between M-WERC and its industry and academic partners has identified critical technological evolutions that are driving the adoption of next generation applications and topologies. Keeping up with these evolutions is of central importance to maintaining and strengthening the state's international competitiveness in the EPC Sector. Tracking and capitalizing on these dynamic evolutions require creating a new training ecosystem in which technicians and engineers learn and innovate side-by-side with advanced technology.

Project description

A cornerstone to the creation of this ecosystem will be a state-of-the-art Electromagnetic Interference (EMI) test chamber and integrated test measurement system that accommodates both conducted and radiated emissions testing and characterization. The purpose for this EMI test and characterization system is to enable early Electromagnetic Compatibility (EMC) exploration and EMI/EMC issue discovery on power systems. This integrated EMI test and characterization system is a missing, and essential, component needed to launch a training and development program vital to maintaining Wisconsin's leadership in the EPC sector. The EMI test chamber is an essential component of the system. The chamber installation itself is separate from power supply and filtration. The power supply and associated EMC line filtering and other power conditioning measures are customized to accommodate the specialized electrical environment associated with high power EMI testing and, therefore, handled separately. The instrumentation and measurement system is also customized in order to enable both training and research activities.

This project has been developed in collaboration with our academic partner: University of Wisconsin – Milwaukee and corporate partners Eaton Corporation, Astronautics Corporation of America, Faith Technologies, Inc., and Leonardo DRS. This project is supported by private and government funding at the Federal, State, and Local level.

Electromagnetic Semi-Anechoic Chamber Project Requirements and Specifications:

- Size: The exterior of the RF shield room needs to be 13.4m x 6.1m x 3.175m* (~40-44' x 19' x 10’5”H).
- RF Shielding: High performance RF shielding enclosure with typical shielding attenuation figures validated according IEEE299.
- Absorber: Ferrite absorber lining for walls and ceiling only. Frequency Minimum: 30 MHz - 1000 MHz.
    - Ability to mount and unmount the absorbers without adhesives.
    - Ability to add higher frequency absorbers if needed
- One 0.40 m x 0.40 m (16” x 16”) access panel on north wall
- Sprinkler pipe penetrations.
- Non-emitting LED light fixtures.
- No AC/DC EMC line filter for DUT needed.*
- Ground plane floor. (No wood or particle board products).
- RF Shielded Door. 2.7m x 2.5m H (~8.9’ x 8.2’H) double leaf, manual latch.
    - Ability to change the location of chamber door without major reconstruction of the chamber, modular construction.
- Ability to relocate the whole chamber without significant additional cost.
- Installation and Verification Testing Services
- Quote to include shipping expense
- Warranty

*It is expected that the chamber vendor will work with M-WERC in order to finalize the routing and physical interfaces (i.e. power feedthrough locations and shielding), since the power supply and EMC filtering are handled as a separate procurement and design activity. Because of its integrative nature, an essential component of this project (which will significantly impact the vendor selection) is the ability of the M-WERC team to work directly with the technical staff and construction/installation staff.

Building/Location Information:
Project Address: 4201 N 27th St., Milwaukee, WI 53216
Second floor installation (CAD attached)
Freight elevator (8'x10.5', door 6'x8')
Smallest doorways (4'x8')
Access to loading dock and large drive-in garage

Project Budget:
Not to exceed $350,000
M-WERC is a 501(c)3 tax exempt, charitable organization
M-WERC is eligible for academic discounts
45% Paid upon order placement (payment on receipt of invoice)
45% Paid upon shipment of all materials – Net 30 days
10% After delivery of materials – Net 30 days

Milestones and Deadlines

RFP Posted: 11/20/20
Proposals due: 12/20/20
Project award date: 12/31/20
Kick-off meeting and discussion with vendor technical staff on integration and project details by 1/15/21
Vendor Delivery and Installation complete by 3/31/21

Evaluation Criteria

Project will be evaluated and scored out of a total of 100 points:	Points
Price	40
Proposal Quality, Design, Methodology, and Approach	25
Communication with PI	15
Vendor project team qualifications and experience, similar projects/customers	10
Capacity and timelines, Lead Time	10
	100

Contact information

Please contact us with any questions. A FAQ will be added to the RFP as questions come in.
Submit proposals to purchasing@m-werc.org

General and RFP Administration Contact:

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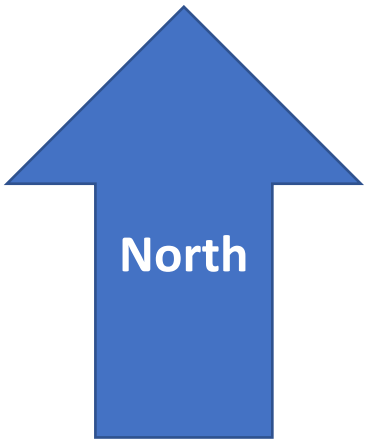
Deadline for submissions:

12/20/20


EMI
EMI Control Area
Duct 11'2" above floor
EMI
Chamber
3" Conduit 10'11" above floor
21.5'
EMI stagi


North