



59 -- High Powered Thyristors and Diodes

General Information

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Contracting Office Address

Department of the Navy, Office of Naval Research, Naval Research Laboratory/STENNIS, John C. Stennis Space Center, Stennis Space Center, MS, 39529-5004

Description

This is a combined synopsis/solicitation for commercial items prepared in accordance with the format in Federal Acquisition Regulations (FAR) Subpart 12.6, as supplemented with additional information included in this notice. This announcement constitutes the only solicitation; proposals are being requested and a written solicitation will not be issued. The solicitation, N00173-05-R-SE04, is issued as a Request for Proposal (RFP). The solicitation document and incorporated provisions and clauses are those in effect through FAC 2005-01 and DFARS Change Notice 20050222. The NAICS code is 334413 and the associated small business size standard is 500 employees. The Naval Research Laboratory (NRL) has a requirement for semiconductors, which will be a component of a railgun energy storage bank. NRL will supply the labor and minor components to assemble the complete energy storage bank. This requirement shall consist of: (1) thyristors; (2) diodes; (3) trigger system; and (4) snubber system. Thyristors shall handle (1) a peak current in excess of 100 kA (kiloamperes), single pulse duty, less than 5 milliseconds pulse length; (2) single pulse action in excess of 3E7 (30,000,000)A-A-sec

(ampere-squared-sec); (3) DC holdoff voltage in excess of 11kV; (4) current risetime capacity of at least 150 A/microsecond and (5) lifetime at rated current and action in excess of 10,000 pulses. Thyristors shall be stacked in series, not parallel in order to meet the above specifications. It is anticipated that a quantity of 12 thyristors sets shall be required. Diodes shall handle: (1) peak current in excess of 140kA (kiloamperes), single pulse duty, less than a5 milliseconds pulse length; (2) single pulse action in excess of 2.5E7 (25,000,000) A-A-sec (ampere-squared-sec); (3) DC holdoff voltage in excess of 11kV; (4) current risetime capacity of at least 400 A/microsecond; and (5) lifetime at rated current and action in excess of 10,000 pulses. Diodes shall be stacked in series, not parallel and it is anticipated that a quantity of 12 diodes sets shall be required. Trigger system shall be (1) isolated from ground in excess of 11kV; (2) trigger jitter of less than 5 microseconds; (3) fiber-optic input for trigger command, fiber optic output of trigger status; and (4) input power of either 24 VDC or 110 VAC. It is anticipated that a quantity of 12 sets of components are required to simultaneously trigger the stack of the thyristors. The snubber system shall be light duty to assure balanced voltage division across thyristor stack. Snubbers shall be R-C filter in parallel with the thyristors that assure the division of the 11kV voltage across the devices so that each thyristor only needs to hold off its fair share of the voltage. The snubber shall also absorb the energy spike associated with the thyristor ceasing to carry current. It is anticipated that a snubber will be required for each individual thyristor, in the 12 thyristor sets. If 5 thyristors are required in a set, then a total of 60 snubber would be required. Delivery and acceptance is at NRL, Washington, D.C. 20375, FOB Destination. Delivery shall be no later than 90 days from date of award. The provision at 52.212-1, Instructions to Offerors-Commercial, applies to this acquisition. The provision at FAR 52.212-2, Evaluation--Commercial Items is incorporated. The Government intends to award a contract resulting from this solicitation to that responsible offeror proposing the lowest price for the items that have been determined to comply with the requirements of the specifications and solicitation. The proposal must demonstrate an understanding of the requirement and the ability to meet the requirements detailed in the specifications. Offeror must complete and submit with its proposal, FAR 52.212-3 Offeror Representations and Certifications--Commercial Items and DFARs 252.212-7000 Offeror Representations and Certifications--Commercial Items. FAR 52.212-3 allows an offeror to complete the representations and certifications electronically at On-Line Representations and Certifications (ORCA); web address: <http://orca.bpn.gov>. If an offeror completes in ORCA, they then only have to complete paragraph (j) of the provision. The provision, identified as B is available electronically at: <http://heron.nrl.navy.mil/contracts/repandcerts.htm>

The clause at FAR 52.212-4, Contract Terms and Conditions-Commercial Items and FAR 52.212-5, Contract Terms and Conditions Required To Implement Statutes or Executive Orders--Commercial Items, applies to this acquisition. The additional clauses cited within this clause are applicable: 52.203-6, 52.222-3, 52.222-19, 52.222-21, 52.222-26, 52.222-35, 52.222-36, 52.222-37 and 52.232-33. The DFARs clause at 252.212-7001, Contract Terms and Conditions Required to Implement Statutes or Executive Orders Applicable to Defense Acquisitions of Commercial Items applies to this acquisition. The additional clauses cited within this clause are applicable: 52.203-3, 252.225-7012, 252.227-7015, 252.227-7037, 252.232-7003, 252.243-7002 and 252.247-7023. The following additional DFARs clauses apply: 252.204-7004, 252.232-7003. All EIT supplies and services provided under any resultant contract must comply with the applicable accessibility standards issued by the Architectural and Transportation Barriers Compliance Board at 36 CFR part 1194 (see FAR Subpart 39.2). Electronic and information technology (EIT) is defined at FAR 2.101. Any resultant contract will be DO Rated under the Defense Priorities and Allocations System (DPAS). The Contract Specialist must receive any questions no later than 10 calendar days before the response date of this solicitation. An original and two copies of the offeror proposal shall be received on or before the response date noted above, 3:00 P.M., local time at the NRL address above, Attn: Contracting Officer. The package should be marked with the solicitation number, due date and time. Other business opportunities for NRL are available at our website <http://heron.nrl.navy.mil/contracts/rfplist.htm>

Point of Contact

Eric Sogard, Contract Specialist, Phone 228-688-5980, Fax 228-688-6055, Email esogard@nrlssc.navy.mil - Patricia Lewis, Contracting Officer, Phone 228-688-5593, Fax 228-688-6055,

Email plewis@nrlssc.navy.mil

Place of Performance

Address: Contractors Facility

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