



A--THERMAL AND MECHANICAL TESTING OF MATERIALS

- [Solicitation 02](#) - Posted on Jun 14, 2002
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General Information

Document Type: Presolicitation Notice
Solicitation Number: N00178-02-R-1021
Posted Date: Feb 06, 2002
Original Response Date: May 01, 2002
Current Response Date: May 01, 2002
Original Archive Date:
Current Archive Date:
Classification Code: A -- Research & Development

Contracting Office Address

Department of the Navy, Naval Sea Systems Command, NSWC Dahlgren Division, 17320
Dahlgren Road, Dahlgren, VA, 22448-5100

Description

The Navy intends to negotiate a sole source contract with Southern Research Institute, 2000 Ninth Avenue South, Birmingham, Alabama, for the following requirement. This requirement is follow-on to contract N00178-98-C-1001 which was awarded sole source to Southern Research Institute. The requirement is for thermal and mechanical testing and analysis of materials in support of the Reentry Systems Applications Program for a base year and four one year options on a cost plus fixed fee (term) basis. Testing and analysis efforts performed under this requirement include, but are not limited to, the following efforts: Characterization of alternate/low-cost reentry body heatshield materials to include thermal and mechanical property measurements on Government furnished materials provided

in the form of plates, cylinders, and frusta. Characterization of low cost reentry body nosetip materials including mechanical and thermal testing of 3D carbon-carbon nosetip materials. The typical mechanical and thermal testing performed by the contractor on nosetip and heatshield materials will be conducted at various temperatures, i.e., 70 degrees Fahrenheit, 1000 degrees Fahrenheit, 2000 degrees Fahrenheit up 5000 degrees Fahrenheit. Typical tests consists of axial and circumferential tension and compression tests, shear tests, conductivity, and thermal expansion tests in the axial, radial, and circumferential directions of the material. Other specialized tests may be performed when needed, such as, bending tests etc. The contractor shall perform non-destructive characterization of candidate materials on selected basis. The measurements to be used will be selected from; visual inspection with documentation, alcohol wipe inspection, bulk gravimetric density, ultrasonic velocity, ultrasonic attenuation, spectral acoustics, radiography, radiometric density and open porosity. Based upon the requirements of the test matrices the contractor shall prepare cutting plans to be used for removing specimen blanks from the bulk shapes. The contractor shall have a procedure for tracking all materials and specimens in the program. The contractor shall support ground tests of reentry body heatshield and nosetip materials and substructures. The tests will normally be in the AEDC high-pressure arcs, but other facilities such as the LHMELE high power laser and the NASA-Ames low-pressure arcs could be used. The contractor shall support Aging studies of the SLBM Mark 4 and Mark 5 reentry body materials by direct support to the Accelerated Drying Flight Test Program. The contractor shall provide analysis support and phenomenological studies to include specialty tests to isolate and determine particular phenomena or behaviors that fall outside what is generally included in material characterization. The contractor shall perform fabrication of various flight test and specialty **hardware** from government furnished materials. Substantial documentation will be required. All responsible sources may submit an offer which will be considered.

The Naval Surface Warfare Center, Dahlgren Division, 17320 Dahlgren Road, Dahlgren, VA 22448-5100 has implemented Electronic Commerce (EC) in the acquisition area; therefore, the solicitation with any applicable amendments will be available on the World Wide **Web** at <http://www.nswc.navy.mil/supply>. Hard copies will not be provided. Vendors should regularly access the NSWCDD website to ensure they have downloaded any and all amendments.

DoD will no longer award contracts to Contractors not registered in the Central Contractor Registry (CCR) database. Offerors may obtain information on registration in the CCR by calling 1-888-227-2423, or via the Internet at <http://www.ccr2000.com>.

Original Point of Contact

XDS11 Contracts, Branch, Phone (540)653-7478, Fax (540)653-7088, Email xds11@nswc.navy.mil

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