



**DEPARTMENT OF THE NAVY
NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION**

CARDEROCK DIVISION HEADQUARTERS
DAVID TAYLOR MODEL BASIN
9500 MACARTHUR BOULEVARD
WEST BETHESDA, MD 20817-5700

IN REPLY REFER TO:

J&A Number: 3322-11-010-00

Code: 3322

08 June 2011

**JUSTIFICATION AND APPROVAL
FOR USE OF OTHER THAN FULL AND OPEN COMPETITION**

JUSTIFICATION

1. Contracting Activity

Naval Sea Systems Command, Naval Surface Warfare Center, Carderock Division (Code 3322).

2. Description of the Action Being Approved

This is a sole source action to be awarded without providing for full and open competition. The proposed contract action is a new indefinite-delivery, indefinite quantity, cost plus fixed fee (completion) type contract to be awarded to Weidlinger Associates, Incorporated (WAI), 375 Hudson Street, New York, NY 10014.

3. Description of Supplies/Services

The contractor will be required to provide scientific and technical services in Underwater Explosion (UNDEX) Shock Analysis of undersea and surface vessels and the unique and proprietary software codes: Analysis, Design, Qualification UNDEX Event Selection (ADQUES), Far-field Underwater Shock Environment (FUSE), Model Checker (MODCHK), Nuclear, Far-field Underwater Shock Environment (NUC_FUSE), and PC Elastic-Plastic Shell Analysis (PCEPSA).

The technical areas covered under this procurement shall include comprehensive software enhancements based upon novel technical advances, finite element model development, numerical model checking and verification, software applications course development and training, and data analysis and mining. The engineering and technical services shall provide unique UNDEX modeling and simulation capabilities relating to shock qualification and shock hardening research and development.

The period of performance for this contract shall be from the effective date of the contract through two (2) years thereafter with three (3) one (1) year options. The total period of performance for this contract shall not exceed five (5) years from the effective date of the contract.

The Government's minimum needs have been verified by the certifying technical and requirements personnel.

Estimated Dollar Value

| | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | Totals |
|--------|---------|---------|---------|---------|---------|---------|-----------|
| SCN | 35,000 | 125,000 | 130,000 | 135,000 | 140,000 | 40,000 | 605,000 |
| RDT&E | 327,000 | 500,000 | 549,000 | 562,000 | 678,000 | 484,000 | 2,800,000 |
| O&MN | 15,000 | 25,000 | 25,000 | 30,000 | 30,000 | 10,000 | 135,000 |
| Totals | 377,000 | 650,000 | 704,000 | 727,000 | 808,000 | 534,000 | 3,800,000 |

4. Statutory Authority Permitting Other Than Full and Open Competition

10 U.S.C. 2304(c)(1) Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements (FAR 6.303-1).

5. Rationale Justifying Use of Cited Statutory Authority

The Naval Surface Warfare Center, Carderock Division (NSWCCD) provides research, development, testing and evaluation under the cognizance of the U.S. Navy. Modeling and Simulation (M&S) of UNDEX events is a major part of this mission and requires unique software applications and expertise.

WAI began work on the EPSA code in 1976 under the sponsorship of the US Naval Office of Naval Research. Over the years, EPSA has constantly been upgraded to provide unique technical solutions while operating on NSWCCD RDT&E computers PCEPSA. The Naval Surface Warfare Center has benefited through the adoption and use of this unique software because it provides NSWCCD the capability to perform pre-test estimates and predictions of UNDEX tests, and make key decisions in support of NAVY submarine design. In addition, the EPSA code is the only code recognized by the Navy's Technical Warrant Holder for submarine structures as verified and validated for assessments of VIRGINIA class submarine structures to combined shock and submergence loadings. FUSE, NUC_FUSE, and MODCHK have been developed by WAI during the last twelve years to support the Navy's submarine shock design and qualification efforts. ADQUES has been developed by WAI to support design decisions for the OHIO replacement submarine class. Each of these WAI developed codes have become an essential element in NSWCCD's ability to fulfill its responsibilities of; planning and executing UNDEX testing; reviewing, as the Designated Approval Authority, lead design yard shock qualification submittals for TWH approval; developing new shock testing methodologies resulting in cost savings, and employing M&S techniques to perform shock hardness assessments of naval vessels. NSWCCD has the need for additional computational enhancements to these codes to support design and cost reduction efforts of multiple navy platforms. In addition to code enhancement, the Center also requires specialized training in the use and application of the software.

Weidlinger Associates, Inc., (WAI) is the only company capable of providing the services and personnel required at the level of quality needed by NSWCCD because the services are unique and extremely specialized. WAI is the developer and administrator of the software codes: ADQUES, FUSE, MODCHK, NUC_FUSE, and PCEPSA. As the developer of the theoretical underpinnings of these computational techniques and the developer of the software, WAI is uniquely qualified to further these codes to meet NSWCCD's mission. The Government has restricted rights to these codes and WAI has consistently provided unlimited licenses and maintenance to the Government.

6. Description of Efforts Made to Solicit Offers from as Many Sources as Practicable

The proposed contract was synopsisized via posting on the Federal Business Opportunities (FedBizOps) website on 13 January 2011 in accordance with FAR 5.2. While to date no responses have been received to the synopsis notification, any responses obtained will be evaluated. Market research was not conducted on this procurement because it is not practical, for the reasons discussed in paragraph 5 above, for any company other than WAI to provide the required supplies and services.

7. Determination of Fair and Reasonable Costs

The Contracting Officer has determined that the anticipated costs to the Government for the supplies/services covered by this J&A will be fair and reasonable.

8. Actions to Remove Barriers to Competition

For the reasons set forth in Paragraph 5, NSWCCD has no plans at this time to compete future contracts for the types of supplies/services covered by this document. If another potential source emerges, NSWCCD will assess whether competition for future requirements is feasible.

CERTIFICATION, REVIEW AND APPROVAL PAGE

TECHNICAL AND REQUIREMENTS CERTIFICATION - (FAR 6.303-2(b))

I certify that the facts and representations under my cognizance, that are included in this justification and its supporting data, including Acquisition Plan No. N/A, except as noted herein, are complete and accurate to the best of my knowledge and belief.

TECHNICAL & REQUIREMENTS COGNIZANCE:

[Redacted Signature Block]

Signature *U* Name (Print) and Title (Code) Phone No. Date

LEGAL SUFFICIENCY REVIEW (NMCAG 5206.303(90))

I have determined that this justification is legally sufficient.

[Redacted Signature Block]

Signature Name (Print) and Title (Code) Phone No. Date

CONTRACTING OFFICER CERTIFICATION - FAR 6.303-2(a)(12)

I certify that this justification is accurate and complete to the best of my knowledge and belief.

[Redacted Signature Block]

Signature Name (Print) and Title (Code) Phone No. Date

APPROVAL BLOCK (FAR 6.304 for Approving Official)

Upon the basis of the above justification, I hereby approve, as the Competition Advocate for the Contracting Activity the solicitation of the proposed procurement(s) using other than full and open competition, pursuant to the authority of 10 U.S.C. 2304(c)(1).

TITLE OF APPROVING OFFICIAL

| | | |
|---|-----------------------|----------------|
|  | <i>Karen Gutmaker</i> | <i>6/29/11</i> |
| Signature | Name (Print) | Date |