

Per FAR 8.405-6 “(o)rders placed or BPAs established under Federal Supply Schedules are exempt from the requirements in (FAR) Part 6.” However, FAR 8.405-6 further states “an ordering activity must justify its action when restricting consideration in accordance with paragraphs (a) or (b) of this section.” As such, per FAR 8.405-6(a)(1)(i)(B), a sole source procurement is justified here because “(o)nly one source is capable of providing the supplies or services required at the level of quality required because the supplies or services are unique or highly specialized.”

The ABAQUS Finite Element Analysis (FEA) software suite is used in NUWCDIVNPT’s RDT&E Core Infrastructure to deliver accurate, robust, high-performance solutions for challenging nonlinear problems, large-scale linear dynamics applications, and routine design simulations. The FEA suite is extremely accurate for understanding the behavior of new materials and supports simulations of subsections of sonar systems, the effect of projectiles on custom fabrics, and the loading of structures on naval vessels, to name a few examples. The integration of implicit and explicit FEA capabilities enables NUWCDIVNPT to use the results of one simulation directly in a subsequent analysis to capture the effects of prior history. The programmable features, scripting, and GUI customization features allow proven methods to be captured and deployed to the entire scientific community which enables more alternative simulations to be analyzed in less time. ABAQUS FEA takes advantage of the latest high-performance parallel computing environments, including code for GPU processing, allowing NUWCDIVNPT to include details in its models previously excluded due to computing limitations. Model assumptions are minimized to reduce turnaround times for high-fidelity results that approach or match experimental measurements.

Due to its robust capabilities, the ABAQUS FEA suite is the most heavily used solver at NUWCDIVNPT now and for the past 27 years. As a result, there is a large active ABAQUS model database that can only be executed with the ABAQUS software.

The ABAQUS FEA software suite is also the primary solver NUWCDIVNPT engineers and scientists are trained to use and develop models in. Replacing ABAQUS with an alternative software solution will create an estimated, unacceptable program delay of and will result in costs exceeding just to rewrite existing, unique models. Furthermore, some of the models cannot be rewritten in any other solver due to the capabilities of ABAQUS which will cause the Navy to lose these modeling capabilities.

In addition, ABAQUS software currently has Department of the Navy Application and Database Management Systems (DADMS) approval to run on the Navy Marine Corps Intranet (NMCI) under DADMS Approval ID 58340.

3DS is the sole manufacturer, developer, and provider of ABAQUS software, software support, and software leasing. 3DS retains all proprietary rights to ABAQUS software and sells it to the Government solely through an authorized GSA schedule holder.

NUWCDIVNPT purchased ABAQUS leases through Naval Surface Warfare Center, Carderock Division for requirements prior to 2009. Since 2009 and through the end of last

year, NUWCDIVNPT purchased the required ABAQUS leases from 3DS's only authorized GSA vendor, Computer Marketing Associates, Inc. (CMA) under GSA orders N66604-09-F-4666, N66604-10-F-3750, N66604-11-F-2802, and N66604-12-F-2823. At the end of 2012, 3DS's contract with CMA expired and the manufacturer came to terms with Immix making Immix the only authorized GSA vendor able to source this requirement.

5. Best Value Determination

The Contracting Officer will determine the cost to the Government for the supplies/services covered by this J&A fair and reasonable and represent the best value to the Government based on a comparison to the GSA schedule holder's (Immix's) current GSA pricing and a comparison to historical pricing paid for ABAQUS software leasing. Additionally, these items are available via GSA Advantage, which, by virtue of placing an order with a schedule holder, the Government obtains the best value (considering price, special features, and administrative costs) consistent with FAR 8.404(d).

6. Market Research

The Government conducted Market Research via GSA Advantage (www.gsaadvantage.gov) and confirmed that Immix is the only current schedule holder authorized to sell the items listed in Paragraph 3, above.

7. Actions to Remove Barriers to Competition

The compatibility requirements of the ABAQUS software does not allow for substitution of another manufacturer's products for the items listed in Paragraph 3, above. There are no actions taken to increase competition at this time because the manufacturer, 3DS, is the sole manufacturer, developer, and provider of ABAQUS software (through Immix). NUWCDIVNPT technical personnel will continue to examine the need for ABAQUS software and explore viable alternatives that become available in the future.

IDENTITY OF NEGOTIATOR:

Type or Print Name *Title* *Code* *Phone*

APPROVAL SIGNATURES:

A. CONTRACTING OFFICER CERTIFICATION REQUIRED BY FAR 8.405-6(c)(2)(ix)

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

Signature and Date

Type or Print Name *Title* *Code* *Phone*

B. TECHNICAL CERTIFICATION REQUIRED BY FAR 8.405-6(c)(2)(x)

I certify that the facts and representations under my cognizance, which 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 COGNIZANCE

Signature and Date

Type or Print Name *Title* *Code* *Phone*

C. LEGAL SUFFICIENCY REVIEW

I have determined this justification is legally sufficient.

Signature and Date

Type or Print Name *Title* *Code* *Phone*

D. CONTRACTING BRANCH HEAD APPROVAL

Upon the basis of the above justification, I hereby approve, the solicitation of the proposed procurement using other than full and open competition, pursuant to the authority of FAR 8.405-6(b)(1).

Signature and Date

Elizabeth Alexander

Branch Head

5911

Type or Print Name

Title

Code

Phone