THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) is issuing this Sources Sought Synopsis as a means of conducting market research or as a market survey to determine the availability of potential qualified vendors with the technical capability to provide all management, supervision, administration, and labor for the project titled “Symbolic Nuclear Analysis Package (SNAP) Development, Maintenance, and Support.”

Services are to be provided to the NRC in Rockville, Maryland. The applicable North American Industry Classification System (NAICS) code assigned to this procurement is **541511 (Custom Computer Programming Services)**.

THERE IS NO SOLICITATION AT THIS TIME. This request for sources and vendor information does not constitute a request for proposal; submission of any information in response to this market survey is purely voluntary; **the Government assumes no financial responsibility for any costs incurred**.

Background and Objective

The U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Regulatory Research (RES), requires continued development, maintenance, sustainment, and user support for its suite of plugins and plotting tools within the Symbolic Nuclear Analysis Package (SNAP) framework. SNAP is a graphical user interface developed and owned by ISL, Inc. that is licensed to the NRC. The NRC has funded and owns specific plugins within the SNAP framework — including the TRACE, PARCS, MELCOR, MACCS, and FAST plugins — which assist NRC staff and international partners in developing input models and analyzing output for complex nuclear safety codes.

The objective of this follow-on contract is to ensure seamless operation of these NRC-owned plugins, adapt to ongoing updates in the underlying physics codes, provide sustained support for mature plugins, and continue development of GRAVE Plot — an NRC-owned scientific data visualization tool (successor to APTplot) used in conjunction with SNAP workflows.

Scope of Work Summary

The anticipated scope includes:

- **Core Plugin Maintenance:** Routine and patch-driven updates to the TRACE, PARCS, MELCOR, MACCS, and FAST plugins to align with external code releases, ensuring backward compatibility and regression testing.
- **Sustainment and User Support:** Long-term maintenance of mature plugins (e.g., Engineering Template, SLURM Job Stream, Git Version Control, Uncertainty Quantification) and production of Section 508-compliant technical tutorial videos.
- **Visualization Tool Development:** Active continuous development of GRAVE Plot, including User Interface (UI) refinements, new plot format support, and Python API integration.

Required Capabilities

1. Technical experience and proficiency developing complex Java-based plugins designed to integrate with the SNAP core architecture.

2. Demonstrated knowledge of NRC’s safety analysis codes, specifically TRACE, PARCS, MELCOR, MACCS, and FAST.

3. Experience developing scientific data visualization tools. Specifically, capability to build robust UI interfaces and design/implement a Python API for automated plotting.

4. Demonstrated experience creating technical, Section 508-compliant tutorial videos.

5. Experience and proficiency in Section 508 of the Rehabilitation Act requirements to ensure the creation and delivery of compliant deliverables.

The purpose of this announcement is to provide potential sources the opportunity to submit information regarding their capabilities to perform work for the NRC free of conflict of interest (COI). For information on NRC COI regulations, visit NRC Acquisition Regulation Subpart 2009.5 (http://www.nrc.gov/about-nrc/contracting/48cfr-ch20.html).

All interested parties, including all categories of small businesses are invited to submit a response. The capabilities package submitted by a vendor should demonstrate the firm's ability, capability, and responsibility to perform the principal components of work listed. The response should also include past performance/experience regarding projects of similar scope listing the project title, general description, the dollar value of the contract, and name of the company, agency, or government entity for which the work was performed.

If significant subcontracting or teaming is anticipated, organizations should address the administrative and management structure of such arrangements. Submission of additional materials such as glossy brochures or videos is discouraged.

How to Respond to This Sources Sought Notice

If your organization has the capability and capacity to perform, as a prime contractor, one or more of the services described in this notice, then please respond to this notice and provide written responses to the following information. **Please do not include any proprietary or otherwise sensitive information in the response, and do not submit a proposal. Proposals submitted in response to this notice will not be considered.**

1. Organization name, address, email address, Web site address, and telephone number.

2. What size is your organization with respect to NAICS code identified in this notice (i.e., "small" or "other than small")? If your organization is a small business under the aforementioned NAICS code, what type of small business (i.e., small disadvantaged business, woman-owned small business, economically disadvantaged woman-owned small business, veteran-owned small business, service-disabled veteran-owned small business, 8(a), or HUBZone small business)? Specify all that apply.

3. Describe the required capabilities your organization possesses. The response must address items "a" through "e" listed below. When referring to prior work, specify your organization's role (prime contractor, first tier subcontractor, and/or supplier) in the referenced contracts/projects. Provide the contract number, contract type, customer name, address and point of contact phone number and email address, contract value, period of performance, thorough description of supplies and services included in the scope of that contract, indication of how they differ from the required capabilities described in this notice, and any other relevant information:

    a. **SNAP Architecture Expertise:** Describe your technical experience and proficiency developing complex Java-based plugins specifically designed to integrate with the SNAP core architecture.

b. **Nuclear Code Knowledge:** Describe your knowledge of and familiarity with NRC's primary safety analysis codes, specifically TRACE, PARCS, MELCOR, MACCS, and FAST. How would your team manage unpredictable, patch-driven release schedules from these external code development teams to ensure timely plugin updates?

c. **Visualization and Plotting Tools:** Provide examples of your experience developing scientific data visualization tools. Specifically, address your capability to build robust User Interface (UI) interfaces and design/implement a Python API for automated plotting (similar to the requirements for GRAVE Plot).

d. **Sustainment and Training:** Describe your approach to providing long-term sustainment for a portfolio of mature plugins (e.g., job streaming, HPC/SLURM integration) while simultaneously creating technical, Section 508-compliant tutorial videos for end-users.

e. **Pricing Strategy:** Given that external code patches (like TRACE, MELCOR, MACCS, or FAST) can be unpredictable, what is your experience with managing this type of work under a Firm-Fixed-Price (FFP) structure versus a Labor-Hour structure? Which tasks within this scope do you believe are most suitable for FFP?

4. Describe how your organization ensures Section 508 compliance for software deliverables and technical tutorial videos. Provide examples of prior Section 508-compliant video content delivered for federal customers.

5. Indicate whether your organization provides any of the required capabilities through Federal Government contracts (i.e., GSA Federal Supply Schedule contract or Government-wide Acquisition Contracts) and specify which services are offered. Include the contract number(s) and indicate what is currently available for ordering from each contract.

6. Provide a standard, non-proprietary commercial price list or similar standard non-proprietary commercial pricing information for how your company sells, as a prime contractor, the required capabilities described in this notice. Also, indicate what is included in that pricing.

7. Is your organization currently performing or have you in the past performed same or similar services as those listed above for any of the licensees regulated by the NRC? If so, which licensees? See http://www.nrc.gov/about-nrc/regulatory/licensing.html for more information on NRC licensing.

8. Has your organization previously faced organizational conflict of interest issues with NRC? If so, what were they and how were they mitigated or resolved?

Interested organizations responding to this Sources Sought Synopsis are encouraged to structure capability statements in the order of the areas of consideration noted above. All capability statements sent in response to this notice must be submitted electronically, via e-mail, to Aracelis.Perez-Ortiz@nrc.gov, either MS Word or Adobe Portable Document Format (PDF), within 30 calendar days from the date of publication of this notice. **The subject line of the transmittal email must reference the notice ID number APP-26-RES-0016.**

DISCLAIMER AND NOTES: Any organization responding to this notice should ensure that its response is complete and sufficiently detailed to allow the Government to determine the

organization’s potential capability and capacity to perform the subject work. Respondents are advised that the Government is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted. After a review of the responses received, a pre-solicitation synopsis and solicitation may be published in SAM.gov. However, responses to this notice will not be considered adequate responses to a solicitation.