

INTERAGENCY AGREEMENT		1. IAA NO NRC-HQ-25-17-T-0004		PAGE OF 1 2	
2 ORDER NO		3 REQUISITION NO NRO-17-0054		4 SOLICITATION NO	
5 EFFECTIVE DATE 07/13/2017		6. AWARD DATE 07/13/2017		7 PERIOD OF PERFORMANCE 08/01/2017 TO 03/31/2019	
8 SERVING AGENCY ALBUQUERQUESANDIA NATL LAB ALC: DUNS: 155505027 +4: DOENNSASFO CONTRACTING OFFICER PO BOX 5400 ALBUQUERQUE NM 87185-5400 POC Christine Whitley IAADMIN@SANDIA.GOV TELEPHONE NO 505-844-3811			9 DELIVER TO LUCIEANN VECHIOLI US NUCLEAR REGULATORY COMMISSION TWO WHITE FLINT NORTH BUILDING 11545 ROCKVILLE PIKE MAIL STOP T-9C26 ROCKVILLE MD 20852		
10 REQUESTING AGENCY ADM ALC: 31000001 DUNS: 040535809 +4: US NUCLEAR REGULATORY COMMISSION TWO WHITE FLINT NORTH 11545 ROCKVILLE PIKE MAIL STOP T-8E06M ROCKVILLE MD 20852-2738 POC Carolyn A. Cooper TELEPHONE NO 301-415-6734			11 INVOICE OFFICE US NUCLEAR REGULATORY COMMISSION TWO WHITE FLINT NORTH 11545 ROCKVILLE PIKE MAILSTOP T9-B07 ROCKVILLE MD 20852-2738		
12 ISSUING OFFICE US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-8E06M WASHINGTON DC 20555-0001			13 LEGISLATIVE AUTHORITY Energy Reorganization Act of 1974		
			14 PROJECT ID		
			15 PROJECT TITLE TECHNICAL ASSISTANCE WITH NON-LIGHT WATER REACTOR		
16 ACCOUNTING DATA 2017-X0200-ADVRX-25-25D006-1061-17-6-220-251D-17-6-220-1061					
17 ITEM NO	18 SUPPLIES/SERVICES	19 QUANTITY	20 UNIT	21 UNIT PRICE	22 AMOUNT
	NRC-HQ-25-17-T-0004 The NRC and the DOE Laboratory (SNL) hereby enter into this Task Order Agreement No. NRC-HQ-25-17-T-0004, for the project entitled "Technical Assistance with Non-Light Water Reactor Policy and Guidance Support." NRC COR: Lucieann Vechioli (301)415-6035 ALT COR: Dayna Dority (301)415-7810 SNL PI: Timothy Wheeler (505)845-9540 Continued ...			45014037B (7000107) 3Z (05499) SNL \$436,893.20 58 \$ 13,106.80 NRCHQ2517T0004	2017.07.24 12:46:59 -06'00'
23 PAYMENT PROVISIONS			24 TOTAL AMOUNT \$450,000.00		
25a SIGNATURE OF GOVERNMENT REPRESENTATIVE (ISSUING) Jon E. Holmberg <small>Digitally signed by Jon E. Holmberg DN: c=us, o=u.s. government, ou=department of energy ou=Energy IT Services, ou=DOE Common Operating Environment, ou=People, cn=Jon E. Holmberg Date: 2017.07.31 10:05:44 -06'00'</small>			25b SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING) <i>Carolyn A. Cooper</i>		
25b NAME AND TITLE Jon E. Holmberg, NNSA Contracting Officer		25c DATE		25c CONTRACTING OFFICER CAROLYN A. COOPER	
				26c DATE 7/13/2017	

SUNSI REVIEW COMPLETE

AUG 08 2017

TEMPLATE - ADM001

ADM002

The period of performance of this task order shall commence on August 1, 2017 and shall end on March 31, 2019. Notwithstanding the agreement effective dates and period of performance start dates stated elsewhere in the agreement; the effective date of the agreement and start date of the period performance are the latest date signed by the parties.

CONSIDERATION AND OBLIGATION:

- (a) Authorized Ceiling Amount: \$2,360,527.00
- (b) The amount presently obligated with respect to this task order is \$450,000.00. When and if the amount(s) paid and payable to the DOE Laboratory hereunder equals the amount obligated, the DOE Laboratory shall not be obligated to continue performance of the work unless and until the NRC Contracting Officer increases the amount obligated with respect to this DOE Task Order Agreement. Any work undertaken by the DOE Laboratory in excess of the obligated amount specified above is done so at the DOE Laboratory's sole risk.

The following documents are hereby incorporated as part of this Agreement:

- Attachment No. 1: Statement of Work
- Attachment No. 2: DOE Standard Terms and Conditions

The work hereunder is non-fee recoverable.

- ALC: 31000001 DUNS: 0405035809
- TAS: 31X0200.320

→ This agreement is entered into pursuant to the authority of the Energy Reorganization Act of 1974, as amended (42 U.S.C 5801 et seq.). This work will be performed in accordance with the NRC/DOE Memorandum of Understanding dated November 24, 1998. To the best of our knowledge, the work requested will not place the DOE and its contractor in direct competition with the domestic private sector.

Master IAA: NRCHQ2514D0005

*Funds expire for Obligation September 30, 2017

*Per email received 7/18/17 KS Dept. 10575

STATEMENT OF WORK (SOW)
(Interagency Agreements including DOE Laboratory)

NRC Agreement Number	NRC Agreement Modification Number	NRC Task Order Number (If Applicable)	NRC Task Order Modification Number (If Applicable)
NRCHQ-25-14-D-0005	N/A	NRC-HQ-25-17-T-0004	N/A
Project Title			
Non-Light Water Reactor Policy and Technical Guidance Support			
Job Code Number	B&R Number	Servicing Agency	
1061	176220	Sandia National Laboratory	
NRC Requisitioning Office		Period of Performance	
NRO/DEIA		August 1, 2017 through March 31, 2019	
NRC Form 187, Contract Security and Classification Requirements		<input type="checkbox"/> Involves Proprietary Information <input type="checkbox"/> Involves Sensitive Unclassified	
<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> Not Applicable		<input type="checkbox"/> Fee-Recoverable (If checked, complete all applicable sections below)	
<input checked="" type="checkbox"/> Non Fee-Recoverable			
Docket Number (If Fee-Recoverable/Applicable)		Inspection Report Number (If Fee Recoverable/Applicable)	
N/A		N/A	
Technical Assignment Control Number (If Fee-Recoverable/Applicable)		Technical Assignment Control Number Description (If Fee-Recoverable/Applicable)	
TBD		N/A	

STATEMENT OF WORK (SOW)

(Interagency Agreements)

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1.0 BACKGROUND

The Nuclear Regulatory Commission (NRC) regulates the construction and operation of new commercial nuclear power facilities. The Office of New Reactors (NRO) serves the public interest by enabling the safe, secure, and environmentally responsible use of nuclear power in meeting the Nation's future energy needs. NRO supports the mission to protect public health, safety, and the environment by leading and managing the licensing activities associated with advanced reactor designs.

Recent interest in Generation IV reactors indicate a possible renewed interest in non-light water reactors (non-LWRs), including liquid metal reactors (LMRs) for high-temperature use and reduction of actinide inventories in used nuclear fuel.

With the increased focus on non-LWR technology, it is reasonably expected that the NRC could soon expect to become involved with regulatory reviews of non-LWR designs. There are positive indications of interest in non-LWRs and the NRC staff expects that the work load will continue to grow over the next several years. To address this projected increase in non-LWR work, and acknowledging the specialized skill sets needed to develop the infrastructure and conduct these reviews of various technologies, DOE laboratory resources are required to supplement the NRC staff resources. The NRC is currently expanding the regulatory framework (e.g., Advanced Reactor Design Criteria) and associated review infrastructure needed to review these non-LWR designs.

The NRC is seeking to establish a more flexible, risk-informed and performance-based regulatory review process within the bounds of existing regulations, including the use of conceptual design reviews and staged-review processes. This flexibility will accommodate potential applicants having a range of financial, technical, and regulatory maturity, and considering a range of design maturity and completeness.

2.0 OBJECTIVE

The objective of this task order is to obtain technical assistance services to provide qualified, competent, and fully experienced personnel that will perform the support activities delineated under this task order which addresses several of the near-term strategies and areas of concern identified in several advanced non-light water reactor workshops and public meetings. These support activities include:

- Assisting in the development of a risk-informed, performance-based, technology-inclusive regulatory infrastructure for non-LWR designs;
- Providing technical assistance in performing pre-application reviews of non-LWR designs,
- Training staff on non-LWR technologies; providing technical assistance in conducting reviews and developing technical guidance related to use of codes/standards for non-LWR designs, and
- Acquiring or developing computer codes, data, and tools to perform non-LWR regulatory reviews.

3.0 SCOPE OF WORK/TASKS

SNL shall provide all resources necessary to accomplish the tasks and deliverables described in this Statement of Work (SOW).

SNL shall provide support to the NRC in a wide range of technical and scientific disciplines aimed at ensuring the overall safety and adequacy of advanced nuclear power plant design, construction, and operations. The scope of work is described in tasks below.

TASK 1: KICK-OFF MEETING

Prior to the initiation of work, the NRC COR will conduct a face-to-face kickoff meeting with the SNL to discuss the project.

The purpose is to obtain alignment and propose potential adjustments to the SOW based on the projected workload and demands.

TASK 2: RISK-INFORMED, PERFORMANCE-BASED, TECHNOLOGY-INCLUSIVE REGULATORY INFRASTRUCTURE

Provide technical assistance in developing a risk-informed, performance-based, technology-inclusive regulatory infrastructure to support the regulatory review of non-LWR designs. Assist the NRC staff in various areas related to developing this regulatory infrastructure for non-LWR designs, including (but not limited to):

- Performing technical reviews of industry documentation;
- Developing methodology, criteria, templates, and procedures;
- Determining licensing bases and accident sets;
- Identifying regulatory gaps;
- Providing risk-informed review guidance;
- Supporting policy development, preparation of commission papers, and rulemaking activities;
- Coordinating workshops on the resolution of policy and key technical issues;
- Supporting public meetings; and
- Assisting with responses to public comments

Following technical direction provided by the NRC COR, SNL shall conduct a study and write a report that compares a technology-neutral approach and a technology-focused (e.g., molten chloride cooled) approach.

TASK 3: NEW REGULATORY REVIEW PROCESSES

Assist the NRC staff in developing a conceptual design review process for non-LWR designs during the pre-application review stage. Assist the NRC staff in developing a staged-review process for non-LWR applications. This includes (but is not limited to):

- Supporting policy development, preparation of commission papers, and rulemaking activities;
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- Developing methodology, criteria, guidance, regulatory review agreements/ contracts, project plans, templates, office instructions, and procedures;
 - Supporting public meetings and workshops; and
 - Assisting with responses to public comments

TASK 4: PRE-APPLICATION REVIEWS

Provide technical assistance in the pre-application review of non-LWR designs. Participate in meetings and other interactions with non-LWR designers. Review topical reports, conceptual design documents, or research being conducted on the non-LWR designs to support the NRC's conceptual design assessment.

TASK 5: TRAINING

Provide support in developing a training program for and delivering training to the NRC staff on various non-LWR designs and specific technical areas of non-LWR designs that will provide the NRC staff with sufficient knowledge, technical skills, and capacity to perform non-LWR regulatory reviews.

TASK 6: INDUSTRY CODES AND STANDARDS

Provide technical assistance in conducting reviews and developing technical guidance related to use of industry codes and standards for the design, testing and operation of non-LWRs. Some specific areas that may need to be addressed in conjunction with the NRC are:

- SNL shall identify industry codes and standards needed to support the non-LWR life cycle (including fuels and materials);
- SNL shall work with stakeholders (standards organizations, vendors, etc.) to determine and clarify the applicability of codes, standards, and criteria needed for non-LWRs.
- SNL shall participate with key industry standard formulation organizations to develop industry codes and standards for non-LWRs. Those organizations include (but are not limited to) the American Society of Mechanical Engineers (ASME), American Nuclear Society (ANS), and Institute of Electrical and Electronics Engineers (IEEE).

TASK 7: COMPUTER CODES, DATA, AND TOOLS

The purpose of this task is to acquire/develop sufficient computer codes, data, and tools to perform non-LWR regulatory reviews. Activities under this task include:

- Prioritize the non-LWR technologies most likely to achieve regulatory review readiness, using inputs from NRC, DOE, industry, and international organizations.
- Develop computer codes, data and tools that would enable the NRC staff to perform regulatory reviews of non-LWR designs. These codes, data and tools would enable the NRC to independently verify the results of the designer or applicant's calculations, models, and other design documentation.

4.0 LIST OF DELIVERABLES

Task	Deliverables	Deliverable Format	Scheduled Completion*
1. Kick-off Meeting			Within four weeks of being awarded the contract.
2. Risk-Informed, Performance-Based, Technology-Inclusive Regulatory Infrastructure	Draft task plan	Microsoft Word	Four weeks from when NRC provides technical direction.
	Final task plan	Microsoft Word	Six weeks from when NRC provides technical direction.
	Draft report for non-LWRs	Microsoft Word	72 weeks from when NRC provides technical direction
	Final report for non-LWRs	Microsoft Word	96 weeks from when NRC provides technical direction.
3. New Regulatory Review Processes	Draft task plan	Microsoft Word	Four weeks from when NRC provides technical direction.
	Final task plan	Microsoft Word	Six weeks from when NRC provides technical direction.
	Draft report for non-LWRs	Microsoft Word	36 weeks from when NRC provides technical direction
	Final report for non-LWRs	Microsoft Word	48 weeks from when NRC provides technical direction.
4. Pre-Application Reviews	Review technical issues		Within one week when NRC provides technical direction.
	Draft technical response	Microsoft Word	TBD by NRC, based on complexity of review and response.
	Participate in public meetings	In person	TBD by NRC
5. Training	Draft task plan	Microsoft Word	Four weeks from when NRC provides technical direction.
	Final task plan	Microsoft Word	Six weeks from when NRC provides technical direction.
	Deliver training	In person	TBD by NRC
	Draft presentation and study materials for a set of classes	Microsoft Power Point Microsoft Word	TBD by NRC
	Final presentation and study materials for a set of classes	Microsoft Power Point Microsoft Word	TBD by NRC
	Draft task plan	Microsoft Word	Six weeks from when NRC provides technical direction.

Task	Deliverables	Deliverable Format	Scheduled Completion*
6. Industry Codes and Standards	Final task plan	Microsoft Word	Eight weeks from when NRC provides technical direction.
	Draft technical report	Microsoft Word	40 weeks from when NRC provides technical direction.
	Final technical report	Microsoft Word	48 weeks from when the NRC provides technical direction.
7. Computer Codes, Data, and Tools	Draft task plan	Microsoft Word	Six weeks from when NRC provides technical direction.
	Final task plan	Microsoft Word	Eight weeks from when NRC provides technical direction.
	Draft technical report	Microsoft Word	40 weeks from when NRC provides technical direction.
	Final technical report	Microsoft Word	48 weeks from when the NRC provides technical direction.

5.0 ESTIMATED LABOR CATEGORIES AND KEY PERSONNEL

Labor Categories, Requirements and Key Personnel. The work requires personnel with expertise in the area of non-LWR technology. All personnel performing work under this task order agreement shall have pertinent technical experience by discipline and technical area.

Experience in risk-informed, performance based regulation is required to identify and resolve current regulatory framework gaps for non-LWRs. The ability to determine the applicability of previously identified policy issues to non-LWRs is required. The ability to identify additional risk-informed and technology-neutral policy issues for non-LWRs is required.

Experience with severe accident analyses is required to review non-LWR licensing bases and accident sets.

Knowledge and ability to create "plain language" guidance to NRC staff reviewers and NRC applicants that reflects risks posed by non-LWR technology is required.

Oral and technical writing skills are required. Technical training skills are required.

Knowledge and ability to assess and leverage the experience available from international counterparts and industry to determine state-of-the-art non-LWR computer codes and tools is required.

6.0 CERTIFICATION AND LICENSE REQUIREMENTS

N/A

7.0 MEETINGS AND TRAVEL

SNL personnel will be authorized travel expenses consistent with the Federal Travel Regulation (FTR) and the limitation of funds specified for the travel within this agreement/order. All travel requires prior written approval from the COR.

Foreign travel for the servicing agency personnel requires a 60-day lead time for NRC approval. For prior approval of foreign travel, the servicing agency shall submit to the COR an NRC Form 445, "Request for Approval of Official Foreign Travel." NRC Form 445 is available in the MD 11.7 Documents library and on the NRC Web site at: <http://www.nrc.gov/reading-rm/doc-collections/forms/>. All foreign travel requires prior written approval from the NRC Executive Director for Operations (EDO).

FY17

- Two, two-person, three-day trip to support activities such as training, meetings, documents review, and discuss the project at NRC HQ.

FY18

- Two, two-person, three-day trip to support activities such as training, meetings, documents review, and discuss the project at NRC HQ.

FY19

- Two, two-person, three-day trip to support activities such as training, meetings, documents review, and discuss the project at NRC HQ.

NOTE: Trip durations of three days assume two travel days and one full day for task activities.

8.0 REPORTING REQUIREMENTS

SNL is responsible for structuring the deliverables to current agency standards. Deliverables shall be submitted free of spelling and grammatical errors and shall conform to requirements stated in this section.

8.1 Monthly Letter Status Report (MLSR)

SNL shall provide a Monthly Letter Status Report which consists of a technical progress report and financial status report and submit electronically by the 20th day of each month. The report will be used by the sponsoring agency to assess the adequacy of the resources utilized by the servicing agency to accomplish the work contained in this SOW and to provide status of the servicing agency progress in achieving tasks and producing deliverables. The report shall include agreement/order summary information, work completed during the specified period, milestone schedule information, problem identification and resolution, travel plans, and staff hour summary. Copies of MLSR shall be sent to the COR and AMD at ContractsPOT.Resource@nrc.gov.

9.0 REQUIRED MATERIALS, FACILITIES, HARDWARE/SOFTWARE

N/A

10.0 APPLICABLE PUBLICATIONS (CURRENT EDITIONS)

SNL shall comply with the following applicable regulations, publications, manuals, and local policies and procedures:

1. NUREG-1379, "NRC Editorial Style Guide", Rev.2 (May 2009)
2. NUREG-0650, "Preparing NUREG-Series Publications," Rev. 2 (January 1999)

11.0 DATA RIGHTS

The NRC shall have unlimited rights to and ownership of all deliverables provided under this agreement/order, including reports, recommendations, briefings, work plans and all other deliverables. All documents and materials, to include the source codes of any software, produced under this agreement/order are the property of the NRC with all rights and privileges of ownership/copyright belonging exclusively to the NRC. These documents and materials may not be used or sold by the servicing agency without prior written authorization from the CO. All materials supplied to the NRC shall be the sole property of the NRC and may not be used for any other purpose. This right does not abrogate any other Government rights.

12.0 CONTRACTING OFFICER'S REPRESENTATIVEContracting Officer's Representative

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Washington, DC 20555-0001

Alternate Contracting Officer's Representative

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Mail Stop: TWFN/ 6 D2
Washington, DC 20555-0001
E-Mail: Dayna.Dority@nrc.gov
Phone: 301-415-7810
Washington, DC 20555-0001

13.0 NRC-FURNISHED PROPERTY/MATERIALS

N/A