INTERAGENCY AGREEMENT	1. IAA NO. NRC-HQ-60-17-T-0017	PAGE 1 OF 3

2. ORDER NO.	3. REQUISITION NO.	4. SOLICITATION NO.
	RES-17-0286	

5. EFFECTIVE DATE	6. AWARD DATE	7. PERIOD OF PERFORMANCE
09/11/2017	09/08/2017	09/11/2017 TO 12/31/2018

8. SERVICING AGENCY
OAK RIDGE NATIONAL LAB
ALC:
DUNS: 012075755 +4:
US DEPARTMENT OF ENERGY
OAK RIDGE NATION LABORATORY SITE OFFICE
BUILDING 4500N MS 6269
PO BOX 2008
OAK RIDGE TN 37831-6269
POC Deborah Garland, CO
TELEPHONE NO. (865) 241-9566

9. DELIVER TO
DON ALGAMA
US NUCLEAR REGULATORY COMMISSION
TWO WHITE FLINT NORTH BUILDING
11545 ROCKVILLE PIKE
MAILSTOP T-10B7
ROCKVILLE MD 20852

10. REQUESTING AGENCY
ACQUISITION MANAGEMENT DIVISION
ALC: 31000001
DUNS: 040535809 +4:
US NUCLEAR REGULATORY COMMISSION
ONE WHITE FLINT NORTH
11555 ROCKVILLE PIKE
ROCKVILLE MD 20852-2738
POC Erika Eam
TELEPHONE NO. 301-415-8180

11. INVOICE OFFICE
US NUCLEAR REGULATORY COMMISSION
ONE WHITE FLINT NORTH
11555 ROCKVILLE PIKE
MAILSTOP O3-E17A
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
LATTICE PHYSICS ENHANCEMENTS AND ASSESSMENTS

16. ACCOUNTING DATA
2017-X0200-FEEBASED-60-60D003-60B302-1145-11-6-213-253D-11-6-213-1145

17. ITEM NO.	18. SUPPLIES/SERVICES	19. QUANTITY	20. UNIT	21. UNIT PRICE	22. AMOUNT
	NRC-HQ-60-17-T-0017 The NRC and Oak Ridge National Laboratory (ORNL) hereby enter into this Agreement Task Order Number NRC-HQ-60-17-T-0017 for the project entitled "Lattice Physics Enhancements and Assessment". NRC POC: Don Algama, 301-415-1940 ALT POC: Mourad Aissa, 301-415-0380 ORNL POC: Lindsey Aloisi, 865-574-4768 Continued ...				

23. PAYMENT PROVISIONS	24. TOTAL AMOUNT
	$100,000.00

25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (SERVICING)		26a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING)	
		[redacted]	
25b. NAME AND TITLE	**25c. DATE**	**26b. CONTRACTING OFFICER**	**26c. DATE**
		ERIKA EAM	9/8/2017

Continued ...

The period of performance of this project shall commence on September 11, 2017 and shall end on December 31, 2018. 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 of performance are the last date of the signature by the parties.

Consideration and Obligations:

(a) Authorized Cost Ceiling - $525,000.00

(b) The amount presently obligated with respect to this DOE Agreement is $100,000.00. When and if the amount(s) paid and payable to the DOE Laboratory hereunder shall equal the obligated amount, the DOE Laboratory shall not be obligated to continue performance of the work unless and until the NRC Contracting Officer shall increase the amount obligated with respect to this DOE Laboratory 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 document is hereby made a part of this Agreement:

Attachment No. 1: Statement of Work

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.

[ ] Fee Recoverable Work
[X] Non-Fee Recoverable Work

DUNS: 040535809
TAS: 31X0200.320
Continued ...

ALC: 31000001

Master IAA: NRCHQ6014D0005

Statement of Work for NRC Agreement IAA NRCHQ6014D0005, Task Order NRCHQ6017T0017, "Lattice Physics Enhancements and Assessment"

Background

Regulatory Context:
The Nuclear Regulatory Commission (NRC) relies on SCALE as a robust, state-of-the-art nuclear analysis computer code system that allows for independent review of licensee submittals and accurate investigations of reactor and fuel phenomena important to nuclear safety.

This computer code system impacts all licensing evaluations that are being performed at the NRC that rely on accurate neutronics analyses for fuel or core calculations. Accurate neutronics calculations for confirmatory analysis are important and will be required to provide data for later use in downstream codes such as PARCS or MELCOR.

Technical Context:
Several advanced technology fuel (ATF) and cladding concepts are being considered by industry. Some ATF concepts are planned for lead test rods in the next one to two years. This task will focus on assessing SCALE neutronics capabilities for ATF designs, including the identification of relevant benchmark experiments for validation, and code enhancements necessary to improve SCALE modeling accuracy. The focus will be on lattice level investigations for ATF concepts, such as Cr-doped UO2, greater-than-5% enriched UO2, advanced cladding types, uranium-silicide fuel, gray control rods, etc.

Each candidate ATF design will be evaluated in the range of anticipated operating condition (fuel, clad, coolant temperature, density, etc.) and design variations (doping amount, fuel enrichment, fuel, clad density, etc.). Trends in important lattice physics parameters such as maximum pin power and eigenvalues will be determined for the selected range of material properties and operating conditions. Uncertainties in lattice physics quantities of interest will be computed with SCALE Sensitivity/Uncertainty tools. Benchmark experiments will be identified based on similarity with ATF lattice physics models. Confidence levels and uncertainties for each calculated parameter will be established by benchmark results and the S/U analysis.

Relationship to Other Projects

NRC-HQ-60-14-T0004 "SCALE Lattice Physics Acceleration" focused on the development of Polaris for light water reactor (LWR) lattice physics calculations. NRC-HQ-6017-T0009 "Non-LWR Lattice Physics Modeling" will focus on updating Polaris for non-LWR fuel models. This project will focus on evaluating and updating Polaris for ATF fuel in LWRs.

Objective(s) of Proposed Work

The objective of this work is to assess the predictive accuracy of SCALE lattice physics capabilities for modeling ATF concepts and to develop additional needed capabilities that are identified by the assessment.

Work to Be Performed and Expected Results

Oak Ridge National Laboratory (ORNL) provide all resources necessary to accomplish the tasks and deliverables described in this Statement of Work (SOW).

This work will establish accuracy for modeling ATF candidate fuel and cladding with SCALE lattice physics codes that provide nodal cross sections for PARCS/TRACE for confirmatory analysis. Additional data such as clad activation and spent fuel source terms can support NMSS/DSFM/CSRB and/or severe accident modeling with MELCOR.

The following ATF designs shall be included in this effort:

Table 1: List of ATF Designs

Design
Cr-Coated ZIRLO - U3Si2(Westinghouse)
Cr-Coated M5 - Cr-doped UO2(Areva)
FeCrAl Cladding - UO2(GEH)
SiC Tubing - U3Si2(Westinghouse)
SiC Tubing - UO2(Areva)
Metallic HEU (Zr,U) Fuel Rods (Lightbridge)

Task 1. Assessment of SCALE Lattice Physics Models for ATF Evolutionary Concepts
This task is similar in design and objective to previous work on SCALE lattice physics code assessment for LWR analysis. This task will include a similarity-based identification of critical experiment benchmarks for assessing the accuracy of SCALE continuous energy (CE) Monte Carlo (MC) as a reference solution. Using SCALE CE MC as a reference solution, 2D lattice physics numerical benchmarks will be developed for evolutionary ATF design concepts, which consist of introducing new materials into existing fuel geometries. The designs studied will be prioritized by NRC staff, such as the following ATF concepts as described in Table 1.

Expected Level of Effort: 450 staff-hours

Task 2. Similarity Assessment of ATF with Criticality and Reactor Physics Db
This task will extend beyond the scope of Task 1 to include revolutionary ATF, see Table 1 for fuel design concepts that are to be included in this effort. Reference CE MC solutions will be generated for each revolutionary concept to compare with lattice physics calculations. In the case of helical fuel, biases and trends can be investigated for modeling the helical fuel in fixed orientations (2D lattice physics codes assume the x-y geometry extrudes uniformly in the z-direction without rotational twisting). Different approaches can be investigated to determine the accurate modeling approach for 2D lattice physics analysis.

Expected Level of Effort: 450 staff-hours

Task 3. Implementation of Lattice Physics Code Enhancements for ATF Concepts
This task will implement the necessary changes into SCALE lattice physics codes for the accurate modeling of ATF fuel concepts. Potential enhancements may include modifications to the energy group structure in the multigroup library, updates to the nuclear data library such as modified self-shielding factors or scattering data, and updates to the Polaris input interfaces for simple definition of ATF compositions or geometries.

Expected Level of Effort: 950 staff-hours

Task 4. Expert Technical Assistance
Technical support and assistance in support of the above referenced tasks of this task order and the operation of the SCALE system shall be provided to NRC staff identified by the NRC COR. For example, assistance with technical issues as arisen from the above Tasks, and may include interaction with ACRS, may be required. It is expected that some of the work required for this task may involve collaborations with other contractors/staff/etc. as appropriate.

A road map for the completion of each requested task is to be developed and provided to the PM.

Expected Level of Effort: 150 staff-hours

Key Personnel

Steve Bowman will be the Project Manager, and Matt Jessee will be the Principal Investigator for this effort. Other key staff include Ugur Mertyurek and Cole Gentry. Résumés are attached.

Subcontractors/Consultants Information

No subcontracting effort is anticipated at this time.

Travel

The following travel is anticipated under the task order:

FY18

- One, one-person trip to NRC HQ for project related activities.
- One, one-person trip to a conference related to project activities.

ORNL 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 ORNL 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).

Materials/Services

No major procurements are anticipated under this project. Should ORNL require purchase of material costing $500 or more after this project starts, ORNL shall request approval of the NRC PM in writing.

Cost for the administration and management of NRC-sponsored projects by the ORNL NRC Projects Office is also shown on the Materials/Services line in the Project Cost Proposal.

Reporting Requirements and Schedule

Computer code development must conform to MD 11.7 and NUREG/BR-0167 requirements for Software Quality Assurance as implemented in the SCALE Quality Assurance Program. Modeling of benchmark experiments will follow the SCALE Procedure for Verified, Archived Library of Inputs and Data (VALID).

Task Number	Deliverable and Acceptance Criteria	Deliverable Format	Due Date
1	The Technical Letter Report (TLR) shall detail the ATF technical designs, input deck, and summary of assessments.	Technical letter report in WORD and PDF. SCALE input files that can be run on independent systems	3 months from project initiation
2	The TLR shall detail methodology used in developing the lattice physics representations of ATF designs, input deck, and summary of assessments against criticality safety and reactor physics benchmarks.	Technical letter report in WORD and PDF. SCALE input files that can be run on independent systems	9 months from project initiation
3	The TLR shall detail methodology used in developing the lattice physics representations of ATF designs, input deck, and summary of assessments against criticality safety and reactor physics benchmarks.	Technical letter report in WORD and PDF. SCALE input files that can be run on independent systems	15 months from project initiation
4	A TLR that includes details of the actions undertaken in the performance of the task, description of any new features, input decks, etc. It should be provided in both WORD and PDF format.	TLR in WORD and PDF format.	15 months from project initiation

ORNL is responsible for structuring the deliverables to follow current agency standards. Deliverables will be technically edited and submitted free of spelling and grammatical errors and conform to requirements stated in this section.

Monthly Letter Status Reports
ORNL will provide a Monthly Letter Status Report, which consists of a technical progress report and financial status report. This report will be used by the sponsoring agency to assess the

adequacy of the resources utilized by ORNL to accomplish the work contained in this SOW and to provide status of ORNL 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 shall be sent to the COR and AMD at ContractsPOT.Resource@nrc.gov.

The MLSR must include the following: agreement number; task order number, if applicable; job code number; title of the project; project period of performance; task order period of performance, if applicable; COR's name, telephone number, and e-mail address; full name and address of the performing organization; principal investigator's name, telephone number, and e-mail address; and reporting period. At a minimum, the MLSR must include the information discussed in the NRC's [preferred] MSLR template.

The COR will acknowledge receipt of deliverables by email.

Period of Performance

08/28/2017 – 12/31/2018

NRC-Furnished Property/Materials

N/A

Access to Non-NRC Facilities/Equipment

No special facilities are required for this project.

Organization Conflict of Interest Information.

OCOI statement is provided as an attachment to this technical proposal.

STANDARD TERMS AND CONDITIONS TO BE ATTACHED TO ALL NRC INTERAGENCY AGREEMENTS AWARDED TO DEPARTMENT OF ENERGY (DOE) NATIONAL LABORATORIES

All work performed for NRC at a DOE laboratory is conducted under the terms and conditions of the DOE contract in place to manage and operate that laboratory. The below set of terms and conditions provide additional guidance in specific areas that are particular to work performed for NRC and supplement the DOE contract provisions.

1. Technical Direction

The NRC Contracting Officer's Representative (COR), as named in the NRC Statement of Work (SOW), is responsible for ensuring that the services required under this project are delivered in accordance with the terms of the SOW. All technical direction instructions to the DOE Laboratory must be issued through the COR.

Technical direction includes interpreting technical specifications, providing needed details, and suggesting possible lines of inquiry. Technical direction must not constitute new work or affect overall project cost or period of performance. Technical direction must be confirmed in writing to the DOE Laboratory, a copy provided to the DOE Site Office or the DOE Field Office, and a copy placed in the NRC Program Office project file.

2. Key Personnel

The individual(s) identified as key personnel in the Technical Proposal, is (are) considered essential to the successful performance of the work. The DOE Laboratory agrees that these personnel shall not be removed from the project or replaced without complying with the following:

- If one or more of the key personnel, for whatever reason, becomes or is expected to become unavailable for work under this contract for a continuous period exceeding 30 workdays, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the DOE Laboratory shall immediately notify the Contracting Officer (CO) in NRC's Acquisition Management Division of its intent to make key personnel replacements.

- All requests for approval of substitutions on a project shall be in writing and shall provide detailed explanation of the circumstances necessitating the proposed substitutions. The request shall contain a complete résumé for the proposed substitute and other information requested by the NRC office to approve or disapprove the proposed substitution. The NRC will evaluate such requests and promptly notify the DOE Laboratory of its approval or disapproval thereof in writing.

- The project may be terminated if the office determines that:

  Suitable and timely replacements of key personnel who have been reassigned, terminated, or have otherwise become unavailable for the project is not reasonably forthcoming.

  The resultant reduction of effort or expertise would be so substantial as to impair the successful completion of the project or work order.

3. Billing Requirements

DOE shall bill NRC monthly for costs paid in support of NRC projects by the agreement number and task order number (if applicable). The DOE shall bill and collect from NRC by an electronic transfer of funds through the U.S. Treasury Intergovernmental Payment and Collection System (IPAC).

The DOE voucher shall identify the NRC Agreement Number and the NRC Task Order number (if applicable). The DOE voucher, as a minimum, shall indicate the month that costs were incurred and the dollar amount of these costs. In some instances because of accrual accounting and other adjustments, the amounts may differ slightly from the original accrual amount.

When monthly letter status report (MLSR) costs differ from the amount billed, DOE shall provide an explanation of the difference on the voucher.

The DOE voucher shall be sent to support the IPAC funds transfer. The instructions must identify the billable activities as specified by 10 CFR Part 170. The DOE voucher and other required documentation shall be submitted to—

NRC Payments
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mailstop O3-E17A
Rockville, MD 20852-2738

Electronic Commercial Vendor and IPAC Payments:
Effective immediately, commercial vendors and Federal entities should use the new electronic mailing addresses shown below:

Invoice and training billing Email address – NRCPayments@NRC.gov
IPAC billing Email address – NRCIPAC.Resource@NRC.gov

4. Monthly Letter Status Reports (MLSR)

In accordance with MD 11.7, the DOE laboratory shall submit a Monthly Letter Status Report (MLSR) by the 20th day of each month to:

- NRC Contracting Officer's Representative

With copies to the following:

- Office of Administration/Acquisition Management Division (electronic copy only) to ContractsPOT.Resource@nrc.gov

The MLSR should contain at a minimum all of the information required in the instructions for completing Monthly Letter Status Reports as defined in Attachment 1 of the NRC SOW.

5. Limitation of Funds

NRC is not obligated to reimburse DOE for costs incurred by its contractors in excess of the total amount obligated by an appropriately executed interagency agreement form. The NRC CO in NRC's Acquisition Management Division will formally notify the appropriate DOE Site Office or the DOE Field Office of any projects that are intended to be phased out or terminated as soon as such intent is known, preferably at least 30 days before the proposed termination date. For work orders with fixed performance periods, the DOE Site Office or the DOE Field Office should assume that the program will terminate on the last day of the period specified in the award form unless notified otherwise.

If at any time the Laboratory has reason to believe that the costs will exceed the total amount authorized, the Laboratory must notify NRC and the DOE Site Office or the DOE Field Office. In the absence of formal NRC instructions to continue or to terminate a work order, the DOE Site Office or the DOE Field Office contract officer or his or her designee will notify NRC by e-mail or other suitable written means when the accrued costs of any NRC work order approaches 75 percent of the authorized funding level for a project or task order (TO).

The notification should include the estimated date when the accrued costs will equal the authorized funds, and may, if appropriate, recommend or request the NRC action desired. The notification should be sent to the appropriate NRC CO and COR with a copy to DOE. After this notification, the NRC will evaluate costs incurred against technical progress and, if necessary, will:

- Increase funding authorization
- Change the scope of the work
- Change the period of performance
- Terminate the project

The performance of work shall be completed within the period stated in the most current authorization document. When the DOE Laboratory anticipates that the work cannot be completed within the fixed time period, it shall notify the NRC CO and COR in writing and send a copy of the notice to the DOE Site Office or the DOE Field Office. Notification shall be made in sufficient time to allow for the issuance of a modification to the agreement, authorizing an extension of the work period to the date necessary to complete the authorized work. If the period of performance is not extended, the office shall notify DOE and the DOE Laboratory via issuance of a modification which should contain closeout instructions, including the reconciliation of any excess funds.

6. Organizational Conflict of Interest

Upon submitting a proposal to the NRC, each DOE Laboratory would continue to acknowledge the disclosure requirements of: 1) MD 11.7, "Organizational Conflict of Interest"; and 2) the provisions of the Memorandum of Understanding (MOU) between DOE and NRC, dated 1998 (which states, in part, that DOE recognizes that Section 170A of the Atomic Energy Act of 1954, as amended, requires that NRC be provided with disclosures on potential conflicts when NRC obtains technical, consulting, research and other supporting services). DOE further recognizes that the assignment of NRC work to DOE laboratories must satisfy NRC's organizational conflict of interest (OCOI) standards.

Therefore, each DOE Laboratory, in its proposal to NRC (which will be incorporated into an interagency agreement between NRC and DOE), is required to make an assertion per #1 or #2 of Part A below for themselves and all subcontractors proposed prior to their award. If the Laboratory selects #1, then, it must also fill out the accompanying Part B – whereby the Laboratory must, again, make an assertion by answering each of the five (5) NRC OCOI provisions per the NRC Acquisition Regulation (NRCAR).

PART A:

"In accordance with [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] role in, and responsibility for, disclosing its relationships with organizations which conduct business in the same and/or similar technical area as described by the present and/or ongoing NRC project's scope of work, and in accordance with the NRC clause as stated herein, [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby asserts that it has examined its relationships with all such organizations, and has also examined its current and future/planned work, and where appropriate, its past work (generally for the previous five years), for DOE and other organizations, and [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] states the following:

1) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby discloses the following relationships _____ [state the name of persons, organizations, and business relationships, etc. **] _____ that may give rise to a potential OCOI. (DOE Laboratory or subcontractor must answer the questions in Part B below);

Or

2) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] to the best of its knowledge and belief, asserts that it has no current work, planned work, and where appropriate, past work for DOE and others (to mean - organizations in the same and/or similar technical area as the present and/or ongoing NRC project scope of work); and [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby asserts that it is not aware of any same/similar technical work that would give rise to any potential OCOI as defined in the Atomic Energy Act of 1954, as amended, and in the NRC/DOE MOU.

Signed: _____

PART B:

In accordance with [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] role/responsibility regarding OCOI disclosure, as stated in Part A, above [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] further discloses, to the best of its knowledge and belief, that:

1) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] and/or any of its organizational affiliates* as defined in Part A above [does/does not] provide advice and recommendations to the NRC in the same technical area (e.g., fire protection, PRA, seismic, vulnerability analysis, fracture mechanics) where it is also providing consulting assistance to any organization regulated by NRC. If [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] "does" - the [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby discloses such organization(s) in Part A above;

2) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] and/or any of its organizational affiliates as defined in Part A above [does/does not] provide advice and recommendations to the NRC on the same or similar matter (e.g., particular licensing amendment, particular EIS, particular high level waste repository site) on which it is also providing assistance to any organization regulated by NRC. If [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] "does" - the [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby discloses such organization(s) in Part A above;

3) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] and/or any of its organizational affiliates as defined in Part A above [will/will not] be required to evaluate its own products or services, or has been substantially involved in the development or marketing of the products or services of another entity. If [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] "does" - the [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby discloses such organization(s) in Part A above;

4) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] and/or any of its organizational affiliates as defined in Part A above [does/does not] have a conflicting role, given the award of the present and/or ongoing NRC project, in which its judgment or the judgment of any of its organizations may be biased in relation to its work for NRC. If [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] "does" – the [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby discloses such conflicting role(s) with organization(s) in Part A above;

5) [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] and/or any of its organizational affiliates as defined in Part A above [are/are not] soliciting or performing concurrent work at an applicant or licensee site, while performing work in the same/similar technical area for NRC at the same site. If [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] "does" – then the [INSERT NAME OF DOE LABORATORY OR SUBCONTRACTOR] hereby discloses such organization(s) in Part A above."

Signed: _____

*Organization affiliate – Business concerns which are affiliates (related) to each other when either directly or indirectly, one concern or individual controls or has the power to control another, or when a third party (i.e. parent firm) has the power to control both.

** The Atomic Energy Act of 1952 uses the term “person” to mean any entity – e.g., sole proprietorship, partnership, joint venture, corporation; university; limited partnership, subchapter S corporation; limited liability company, etc.

7. Incompatibility Between Regular Duties and Private Interests

(a) Employees of a management and operating contractor shall not be permitted to make or influence any decision on behalf of the contractor which directly or indirectly affects the interest of the Government, if the employee’s personal concern in the matter may be incompatible with the interest of the Government. For example: An employee of a contractor will not negotiate, or influence the award of, a subcontract with a company in which the individual has employment relationship or significant financial interest; and an employee of a contractor will not be assigned the preparation of an evaluation for DOE or for any DOE contractor of some technical aspect of the work of another organization with which the individual has an employment relationship, or significant financial interest, or which is a competitor of an organization (other than the

contractor who is the individual's regular employer) in which the individual has an employment relationship or significant financial interest.

(b) The contractor shall be responsible for informing employees that they are expected to disclose any incompatibilities between duties performed for the contractor and their private interests and to refer undecided questions to the contractor.

8. Intellectual Property Rights

The statutory, regulatory, and procedural intellectual property policies of DOE will be applicable to the work falling under this work order—

- Provided that information concerning disclosures of inventions identified as having been conceived or first actually reduced to practice under Commission-funded work will be reported to the Commission, and the Commission will be kept advised as to their status.

- Except that the Commission reserves the right to control title to inventions as to any rights that vest in the Commission under statute. If DOE and DOE's contractor, where the contractor has such rights, should determine not to protect these inventions either domestically or abroad, the Commission will have the right to protect these inventions.

- Provided that if the technology covered by an invention disclosure upon which DOE intends to file a patent application on behalf of the U.S. Government is deemed by the Commission to fall within the Commission's mission, that is, when the technology relates to nuclear facilities and materials safety, safeguards, and environmental protection in support of the Commission's licensing and regulatory functions, the Commission may so notify DOE and a determination will be made by the parties as to which party will file the patent application or applications.

- Provided that neither party shall grant an exclusive patent license on an agency owned invention without the approval of the other party.

9. Acquired Material, Equipment, or Software (Property)

In accordance with Management Directive 11.7, the Laboratory proposal must include a description of the property required for project performance that has an estimated acquisition cost of $500 or more. The proposal must also identify the potential development of NRC-funded software during the project. NRC-funded software is software specifically developed for NRC by the Laboratory and is generally the deliverable for the project.

After the NRC reviews the list of property and NRC-funded software included in the Laboratory proposal, any questions regarding the acquisition of property or the development of NRC-funded software will be addressed with the Laboratory during negotiations. After negotiating project terms and conditions, NRC shall issue an agreement authorizing the work and approving acquisition of property or development of NRC-funded software.

Laboratories shall submit a written request to the NRC project manager for approval to develop additional NRC-funded software or purchase additional property with an estimated acquisition cost of $500 or more after work initiation. The project manager shall approve or disapprove the acquisition or development of any additional items in writing.

DOE Laboratories shall report property, including software, with an acquisition cost of $500 or more in the monthly letter status report in the month the property or software was acquired. DOE laboratories shall forward an electronic copy of all monthly letter status reports to the NRC Office of Administration, Acquisition Management Division: ContractsPOT.Resource@nrc.gov, in addition to the NRC COR. DOE Laboratories shall provide the information listed in the Monthly Letter Status Report instructions for each item reported as appropriate, in the monthly letter status report.

10. Dissemination of Project Information/Publication Requirements

(a) Prior to any dissemination, display, publication, presentation, or release of papers, articles, reports, summaries, or abstracts developed under the NRC/DOE Agreement, the DOE Laboratory shall submit them to the NRC for review and comment. NRC shall have a review and comment period of at least [60] days, after which both an NRC and DOE Laboratory representative at the lowest management level, shall attempt to resolve any differing viewpoints or statements which are the subject of NRC objection. If the matter cannot be resolved at that level, the issue shall be brought up to the next management level in both organizations until an agreement can be reached or it reaches the Office Director level. Matters which cannot be resolved at this level shall be submitted for resolution to the Laboratory's Technology Partnership Ombudsman (as set forth in the Laboratory's Management and Operating contract with DOE or NNSA pursuant to § (p) of Department of Energy Acquisition Regulation (DEAR) 970.5227-3 "Technology Transfer Mission" (Aug 2002)). In the event resolution cannot be achieved by the Ombudsman, the NRC may direct the Laboratory/DOE to not publish the work as a NUREG/CR, but publish as a Laboratory report without the NRC office name or Project Manager's name listed on the report, and with a Disclaimer conspicuously noted on the report, article, summary, abstract or related document that the Laboratory/DOE intends to release, display, disseminate or publish to other persons, the public or any other entities:

> "The views expressed in this [paper, journal article, report, summary, or abstract] do not represent those of the U.S. Nuclear Regulatory Commission."

(b) The NRC and DOE agree to handle all classified information provided or developed during the course of this project in accordance with all applicable laws and regulations governing the handling of such information. In the event NRC determines during its review and comment period that a draft Laboratory paper, article, report, summary, or abstract contains classified information regarding the work performed for NRC, NRC, in addition to commenting on the subject matter, shall also direct the Laboratory/DOE to direct an authorized classification authority to appropriately review, classify and mark the product, pursuant to nationally acceptable standards/guidelines. Under these circumstances, the Laboratory will either publish the work solely as a classified product pursuant to NRC direction, or not publish the work in any format. In cases where classification of the product is in dispute, NRC may consult with DOE's Office of Classification; however NRC retains the ultimate authority over the classification of the product.

(c) In addition, travel costs to present papers or reports developed under the NRC/DOE Agreement may not be authorized if the NRC program manager determines that presentation of the paper does not support the NRC program or project. Such determination will not affect payment of the contract work costs.

(d) The DOE Laboratory contractor, to the extent it is permitted to and asserts copyright therein, grants a royalty-free, nonexclusive, irrevocable worldwide license to the Government to use,

reproduce, modify, distribute, prepare derivative works, release, display or disclose the articles, reports, summaries, abstracts, and related documents developed under the Agreement, for any governmental purposes and to have or authorize others to do so.

11. Review and Approval of Reports

The Laboratory/DOE shall comply with the terms and conditions of the agreement regarding the contents of the draft and final reports, summaries, data and related documents, to include correcting, deleting, editing, revising, modifying, formatting and supplementing and of the information contained therein. Corrective actions shall not be undertaken unless sufficient funding from NRC is available to cover the costs of the corrective actions. Performance under the agreement shall not be deemed accepted or completed until it complies with NRC's directions.

Identification/Marking of Sensitive Unclassified and Safeguards Information. DOE shall comply with the requirements stated MD's 12.7 "NRC Safeguards Information Security Program" as follows:

a) Classification Clause

To the extent that the performance of work under this work order involves classified information, the following clause is applicable:

- In the performance of work under this work order, DOE shall ensure that a DOE authorized classifier shall assign classification levels to all documents, material, and equipment originated or generated by the performing organization in accordance with classification guidance furnished by the Commission. Each subcontract and purchase order issued hereunder involving the generation of classified documents, material, or equipment shall include a provision to the effect that in the performance of such subcontract or purchase order, a DOE authorized classifier shall assign classification levels to all such documents, material, and equipment in accordance with classification guidance furnished by the NRC.

- When appropriate, the attached NRC Form 187, "Contract Security and/or Classification Requirements," is a part of this work order. It is the responsibility of the NRC office originating the work order to review the classification assigned and to refer any problems to the NRC Division of Security Operations (DSO), NSIR, for resolution.

b) Safeguards Information, Unclassified Controlled Nuclear Information, or Unescorted Access to Protected and Vital Areas of Nuclear Power Plants

To the extent that the performance of work under this work order involves Safeguards Information (SGI), the following clause is applicable:

> In the performance of the work under this project, DOE shall assure that the DOE laboratory shall mark and protect all documents, material, and equipment originated, generated, or received by the performing organization in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954, as amended, its implementing regulations (10 CFR 73.21), "Protection of Safeguards Information: Performance Requirements." Further guidance on the protection of Safeguards Information and examples of proper marking of cover; title page, and back cover are contained in NRC Management Directive (MD) 12.7, "NRC

Safeguards Information Security Program" and the NRC Guide to Marking Safeguards Information.

To the extent that performance of work under this work order involves unclassified controlled nuclear information (UNCI), the following clause is applicable:

In the performance of the work under this project, DOE shall assure that the DOE laboratory shall mark and protect all documents, material, and equipment originated, generated, or received by the performing organization in accordance with the provisions of Section 148 of the Atomic Energy Act of 1954, as amended, is implementing DOE regulations, and DOE orders and guidance.

It is the responsibility of the NRC office originating the work to indicate whether the work will involve SGI or unescorted access to protected and vital areas of nuclear power plants. An NRC Form 187, "Contract Security and/or Classification Requirements," shall be completed to indicate such access.

c) Proprietary Information

In connection with the performance of work under this work order, NRC may furnish for DOE review, evaluation, or other use certain trade secrets or confidential or privileged commercial or financial information determined by the office to be exempt from public inspection or disclosure. A synopsis of such information must be submitted in writing to the DOE contracting officer for reaching agreement with the office on the acceptance and use of the information. Up-to-date guidance on the protection of proprietary information used in reports prepared by the DOE laboratory on proper marking of cover, title page, and back cover may be obtained from the NRC COR.

Proprietary or other privileged information may be provided by the office on an individual basis to DOE laboratory employees working as NRC consultants with the understanding that it shall be protected from disclosure and shall be returned to the office upon completion of the work. Any such claimed proprietary data will be appropriately identified and marked as such. The use of proprietary information in reports prepared by consultants requires protection. Further information may be obtained from the NRC COR.

d) Other Sensitive Unclassified Non-Safeguards Information (SUNSI)

Information other than safeguards, unclassified controlled nuclear, proprietary information, and pre-decisional information may at times be determined to be sensitive. The use of such information in reports requires the specific NRC designation and protection as prescribed by the NRC SUNSI policy. Further information may be obtained from the NRC COR.

12. Sensitive Information Work Efforts

To the extent that the performance under this work order involves classified information, the following clauses are applicable:

- Responsibilities. DOE and the DOE contractor (performing organization) shall be responsible for safeguarding Restricted Data, Formerly Restricted Data, and other National Security Information and for protecting it against sabotage, espionage, loss, and theft in accordance with applicable NRC and DOE security regulations and requirements.

- Transmission of Classified Matter. Except as otherwise expressly provided, DOE or the DOE contractor shall, upon completion or termination of the work order, transmit to the NRC program office all classified matter in its possession or in the possession of any person under its control in connection with performance of this project or work order. If retention of any classified matter is required by DOE or the DOE contractor, DOE must obtain the approval of the NRC program office and complete a certificate of possession specifying the classified matter to be retained.

- Regulations. DOE and the DOE contractors shall be responsible for compliance with all applicable NRC and DOE security regulations and requirements.

- Definition of Restricted Data. The term “Restricted Data,” as used in this clause, means all data concerning (1) the design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but does not include data declassified or removed from the Restricted Data category pursuant to Section 142 of the Atomic Energy Act of 1954, as amended.

- Definition of Formerly Restricted Data. The term “Formerly Restricted Data,” as used in this clause, means classified information related primarily to the military utilization of atomic weapons that can be adequately safeguarded as National Security Information, subject to the restrictions on transmission to other countries and regional defense organizations that apply to Restricted Data.

- Definition of National Security Information. National Security Information is information that has been determined pursuant to Executive Order 13526 or any predecessor order to require protection against unauthorized disclosure and is so designated.

- Security Clearance of Personnel. DOE and DOE laboratories shall not permit any individual to have access to Restricted Data, Formerly Restricted Data, or National Security Information, except in accordance with the Atomic Energy Act of 1954, as amended, Executive Orders 12968 and 10865, and DOE regulations or requirements applicable to the particular type or category of classified information to which access is required.

- Safeguards Information Access. DOE and DOE laboratories shall not permit any individual to have access to Safeguards Information, except in accordance with 10 Code of Federal Regulations Part 73.22 and NRC Management Directive 12.7.

- Liability. It is understood that the unauthorized disclosure or the failure to properly safeguard Restricted Data, Formerly Restricted Data, or National Security Information that may come to the DOE or to any person under an NRC/DOE work order in connection with work under the work order may subject the performing organization, and its agents, employees, or subcontractors, to administrative sanctions and criminal liability under the laws of the United States. (See the Atomic Energy Act of 1954, as amended [42 U.S.C. 2011et seq.], 18 U.S.C. 793 and 794; and Executive Orders 13526 and 12968.)

- Subcontracts and Purchase Orders. Except as otherwise authorized in writing by the Commission, DOE shall insert provisions similar to the foregoing in all subcontracts and purchase orders under this project or work order.

13. Software Development

Systems development efforts shall comply with applicable Government-wide Federal Information Processing Standards developed by the National Institute of Standards and Technology, applicable public laws, Office of Management and Budget circulars, and NRC policies and procedures. Particular attention is necessary to incorporate security features in the design of systems that process sensitive data. The format of software deliverables is specified in NRC Bulletin 0904-4. If any deliverable is provided on diskette, the diskette shall be scanned for viruses by the contractor and verified to be free of viruses before delivery to NRC. All software development, modification, or maintenance tasks shall follow general guidance provided in NUREG/BR-0167, “Software Quality Assurance Program and Guidelines.” NRC shall advise the DOE Patent Counsel with respect to any rights in the software that NRC desires under any particular project, which rights include NRC imposing restrictions on use, and distribution of the software by DOE or the Laboratory.

14. Copyright in Computer Software and Codes

In the event that a DOE Laboratory desires to assert a copyright of any computer software or computer code funded in whole or in part by NRC, the Laboratory shall request, in writing, the written approval of the cognizant NRC division director or designee before advising DOE's patent counsel of the Laboratory’s desire to seek the copyright.

If NRC determines that public health and safety or other programmatic considerations dictate that the DOE Laboratory contractor should not be given permission to copyright the computer software or code, the NRC CO, after consultation with the NRC Office of the General Counsel (OGC) and the division director or designee, shall so advise the Laboratory in writing.

Alternatively, if permission to copyright computer software or a computer code is granted, the cognizant NRC CO, after consultation with OGC and division director or designee, shall provide the Laboratory with written notice of that decision. In those cases in which the cognizant NRC CO determines that the rights retained by the Government pursuant to the copyright provisions of the Laboratory contract should be modified to protect NRC's interests, NRC will advise DOE's patent counsel of NRC's desire to modify DOE's standard policy with respect to permission for a contractor to assert copyright in that code. DOE and NRC will then jointly determine the appropriate provisions for the code. The DOE patent counsel shall provide the Laboratory with written notice, with a copy to the cognizant NRC division director or designee, of that joint determination. The Laboratory may then proceed to assert copyright.

In no case shall the DOE Laboratory take action relating to assertion of copyright until the NRC CO provides written approval to the Laboratory’s request to assert copyright. Further, DOE shall not permit a contractor to assert copyright of an NRC-funded computer code or computer software without the written approval of the cognizant NRC division director or designee. Where NRC has not granted permission to copyright, NRC recognizes that once a Laboratory has delivered to NRC a developed version of a particular code, the Laboratory may exercise the existing right that both the Laboratory and other parties have to further develop, without NRC funds, software codes that are in the public domain and to copyright the new, non-NRC-funded versions of these codes without NRC approval.

15. Appropriate Use of Government Furnished Information Technology (IT) Equipment and/or its Services/Access

When the NRC work at a DOE site requires electronic processing of information, DOE will follow NIST Special Publication (SP) 800-37 Rev. 1 or later, and SP 800-53 Rev. 3 or later (which are based on FIPS-199 and FIPS-200). For those specific projects with electronic processing of Safeguards Information (SGI), Restricted Data (RD) and/or Unclassified Nuclear Information (UCNI), the NRC shall provide DOE with the appropriate requirements that must be met on a project by project basis. In addition, for those specific projects that require classified electronic information processing, DOE will follow the CNSS policy, directives, instructions, and guidance.

16. NRC Information Technology Security Training

Agencies/Contractors shall ensure that their employees, consultants, and subcontractors with access to the NRC's information technology (IT) equipment and/or IT services complete NRC's online initial and refresher IT security training requirements to ensure that their knowledge of IT threats, vulnerabilities, and associated countermeasures remains current. Both the initial and refresher IT security training courses generally last an hour or less and can be taken during the employee's regularly scheduled work day. Agency/Contractor shall ensure that their employees, consultants, and subcontractors, with access to the NRC's IT equipment, complete the Information Security (INFOSec) Awareness Training annually; no later than December 31st.

Agency/Contractor employees, consultants, and subcontractors shall complete the NRC's online, "Computer Security Awareness" course on the same day that they receive access to the NRC's IT equipment and/or services, as their first action using the equipment/service. For those Agency/Contractor employees, consultants, and subcontractors who are already working under an existing agreement/contract, the online training must be completed in accordance with agency Network Announcements issued throughout the year.

Agency/Contractor employees, consultants, and subcontractors who have been granted access to NRC information technology equipment and/or IT services must continue to take IT security refresher training offered online by the NRC throughout the term of the agreement/contract. Agency/Contractor employees will receive notice of NRC's online IT security refresher training requirements through agency-wide notices.

The NRC reserves the right to deny or withdraw Agency/Contractor use or access to NRC IT equipment and/or services should the Agency/Contractor violate the Agency/Contractor's responsibility under this clause.

17. Contract Security Requirements for Unescorted Access to Nuclear Power Plants

If performance under this work order involves unescorted access to protected and vital areas of nuclear power plants or access to nuclear power reactor SGI, individual contractors requiring access to protected and vital areas of nuclear power plants or access to nuclear power reactor SGI shall be approved for unescorted access in accordance with the following procedures:

17.1 Temporary Approval

The contractor (DOE laboratory employees and laboratory contractors) does not need a temporary approval if he or she has a valid Government clearance, for example, a DOE "Q" or

"L" clearance. If the contractor employee does not have such a clearance, the contractor shall submit the information discussed below within 30 calendar days following contract award, modification, or proposal of new personnel for contract tasks. This information shall be provided for each person proposed to perform tasks requiring unescorted access to nuclear power plants or access to nuclear power reactor SGI. If access to SGI is needed, and unescorted access is not required, the provisions of 10 CFR 73.22 must be followed as a condition for access to SGI. The information shall be provided to the NRC Division of Facilities and Security (DFS) through the NRC COR and consists of the following:

- A completed Personnel Security Forms Packet, including an SF 86, "Questionnaire for National Security Positions," and copies of the individual's 5-year employment and education history checks, including verification of the highest degree obtained

- A reference from at least one additional person not provided by the individual

- Results of a psychological evaluation (This is not a requirement of the background check that is required for access to SGI.

- Form FD-258, ORIMDNRC000Z (Fingerprint Card)

- A certification that the contractor has found all checks acceptable

The results of a psychological examination that uses a reliable written personality test or any other professionally accepted clinical evaluation procedure shall be used to evaluate a subject's trustworthiness, reliability, and stability. The contractor shall review all required information for accuracy, completeness, and legibility, except Part 2 of the SF 86, which must be completed in private and submitted, along with the Form FD-258 by the individual to the contractor in a sealed envelope, or the individual shall be fingerprinted by the subject utility, and the contractor shall be subject to the utility's access authorization program. As described in this section, DFS shall conduct criminal history and credit checks and a security assurance interview with the individual. On the basis of the results of these checks, DFS shall determine the individual's eligibility for temporary access and indicate an objection or no objection to NRC pending completion of the required background investigation.

17.2 Final Approval

Final approval shall be granted if:

- The individual has completed processing (by the Office of Personnel Management) of the required investigation resulting in NRC endorsement for unescorted access at all nuclear facilities for the life of the contract.

- The contractor has obtained unescorted access authorization (other than temporary access) at the specific utility through that utility's access authorization program, resulting in unescorted access at a specific facility.

- The individual possesses a valid Government-issued clearance as verified by DFS.

- A valid Government-issued clearance is defined as a U.S. Government-issued security clearance equivalent to or higher than an NRC "L" clearance (i.e., Secret) based on a comparable investigation not more than 10 years old. The investigation specified in MD

11.7, Section 11.12.2 may involve an National Agency Check and Inquiries (NACI) or other investigation as deemed necessary by DFS in accordance with 10 CFR Part 10, 10 CFR 73.22, NRC MD's 12.3, "NRC Personnel Security Program" and 12.7 "NRC Safeguards Information Security Program." Any question regarding the individual's eligibility for unescorted access to protected or vital areas of nuclear power facilities will be resolved in accordance with the provisions set forth in MD 12.3, which are incorporated into the work order by reference as though fully set forth therein. The contractor shall, for each contractor individual approved for access under the provisions of this section, submit to DFS through NRC a signed statement from the individual that he or she understands his or her responsibility to report information bearing on his or her continued eligibility for access authorization as specified in MD 12.3. Access to SGI not also involving unescorted access to protected and vital areas of nuclear power plants shall require the submission of a completed Personnel Security Forms Packet to DFS through NRC and will require a Background Check in accordance with 10 CFR Part 73.22 and MD 12.7. Any questions regarding the individual's eligibility for access to nuclear power reactor SGI shall be resolved in accordance with the provisions set forth in MD 12.7, which is incorporated into this contract by reference as though fully set forth herein. On the basis of the review of the applicant's security forms by DFS and/or the receipt of adverse information by NRC, the individual may be denied access to nuclear power reactor SGI until a final determination of his or her eligibility for access is made under the provisions of MD 12.7.

17.3 Fitness for Duty

Pursuant to NRC policy, all individuals proposed for work under this contract who require unescorted access to nuclear power plants shall be subject to the requirements of the licensee's fitness-for-duty program (10 CFR Part 26).

17.4 Basic Exposure Control and Personnel Dosimetry Training Requirements

The contractor shall certify that personnel working under the scope of this contract have completed basic exposure control and personnel dosimetry training sufficient to meet the requirements of commercial nuclear power plants for unescorted access. Site specific training obtained at each site shall still be required during the performance of work under this contract in addition to the basic training.

17.5 Subcontractor Information—Subcontracting

The DOE organization shall notify the issuing NRC CO in writing reasonably in advance of entering into any major or significant technical service subcontract not contained in the original proposal. "Major or significant'' must be used with judgment and related to the total value of the project and/or impact on the results. This advance notification shall include the following:

- A description of services to be called for by the subcontract

- Identification of the proposed subcontractor

- The proposed subcontract costs (in total)

- A signed conflict of interest statement

The NRC CO may require additional specific subcontractor information or limitations. The NRC CO will issue a modification to the agreement upon approval of the subcontracting effort.

18. Information on NRC Cooperative Programs with Foreign Governments and Organizations and With U.S. Industry

DOE facilities, contractors, and subcontractors working on NRC cooperative programs with foreign governments and organizations and with U.S. industry perform this work with the understanding that draft or formal reports on this work are to be available only to participants in the program until public availability is authorized by the NRC office. Reports or codes (including data) on this work shall be issued as "Draft Preliminary Reports (Codes)" until the office authorizes issuance of the report as a formal report with the designation NUREG/IA-XXXX for international agreement reports or NUREG/CR-XXXX for contractor reports. Details of the handling of reports may be obtained from the NRC COR.

19. Stop-Work Order

The NRC CO may, at any time, by modification to the agreement to the DOE CO, require the DOE Laboratory to stop all or any part of the work called for by this work order for a period of up to 90 days after the order is delivered to the DOE Laboratory, and for any further period to which the parties may agree. Any such order will be specifically identified as a "stop-work order" issued pursuant to this clause. Upon receipt of such an order, the DOE Laboratory shall forthwith comply with its terms and take all reasonable steps to minimize the incurrence of cost allocable to the work covered by the order during the period of work stoppage.

Within a period of 90 days after a stop-work order is delivered to DOE or within any extension of that period to which the parties shall have agreed the office shall either:

- Cancel the stop-work order

- Terminate the work covered by this work order

If a stop-work order issued under this clause is cancelled or the period of the stop-work order or any extension thereof expires, DOE will authorize its contractor to resume work. An adjustment will be made in the delivery schedule or cost, or both, and the work order must be modified in writing accordingly. If a stop-work order is not cancelled and the work covered by the order is terminated in accordance with the terms of this work order, costs resulting from the stop-work order will be allowed in arriving at the termination settlement.

20. Termination

Circumstances may arise in which either NRC or DOE wishes to terminate performance of a project in whole or in part. If both parties agree, the work order may be terminated. If DOE wishes to terminate the project, it shall advise the cognizant NRC CO. If NRC wishes to terminate the project, the cognizant NRC CO will advise the cognizant DOE Site Office or the DOE Field Office and send a copy of the termination agreement to the DOE Laboratory.

Within 60 days after the effective date of the termination of the work order, the DOE Laboratory shall submit a termination settlement proposal to the cognizant NRC CO, through the cognizant DOE Site Office or the DOE Field Office. When additional time is required to compile all outstanding costs, such as subcontractor costs, the DOE Site Office or the DOE Field Office

shall provide a written notification to the NRC CO that includes a proposed due date for the final settlement proposal. In the event of disagreement between the parties, the cognizant NRC CO will make the final decision. The DOE Laboratory shall not incur new obligations for the terminated portion of the project after the effective date and must cancel as many outstanding obligations as possible. NRC will allow full credit to the DOE Laboratory for obligations properly incurred by the recipient before termination.