March 31, 2009

REVISED STATEMENT OF WORK

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Project Title:	Spent Fuel Transport Risk Assessment (SFTRA)
Job Code Number:	J5546
B&R No.:	95015366270
Technical Project Manager (TPM):	John Cook, SFST (301) 492-3318
Technical Assistance Project Manager (TAPM):	Penny Kinney, PBPA (301) 492-3248
Performing Organization:	Sandia National Laboratories (SNL)
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1.0 Background

The U. S. Nuclear Regulatory Commission (NRC) provided spent fuel transport impact study results in reports entitled: (1) "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, NUREG-0170, December 1977; (2) "Shipping Container Response to Severe Highway and Railway Accident Conditions," NUREG/CR-4829, February 1987; and (3) "Reexamination of Spent Fuel Shipment Risks," NUREG/CR-6672, March 2000. The studies demonstrated that spent fuel shipment risks are low, however several technical factors that require evaluation in order to refine spent fuel shipment risk estimates have been identified by NRC staff. Therefore, technical assistance is required with a NUREG document that summarizes spent fuel transportation safety. Sandia National Laboratories (SNL) has assisted the NRC with this effort since 2005. Since the NUREG has not been completed, a modification to this agreement is required for SNL to complete the Spent Fuel Transport Risk Assessment (SFTRA) project.

Current Modification

The desired outcome for SFTRA remains unchanged: a NRC NUREG document that summarizes spent fuel transportation safety (including estimated spent fuel transportation impacts using the best available technology), and that has undergone both public and peer review and comment. Since the estimated effort necessary to fully complete SFTRA is greater than previously estimated, the current modification, described below, is required.

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Task 1 modification. SFTRA differs from all prior transportation risk assessments in that it uses NRC-certified casks instead of generic casks. For this reason, it is imperative that the analytical models very closely match the actual cask design. It is not possible to make simplifying assumptions about geometry or to leave out complex details. Results of NUREG/CR-6672 and subsequent analyses have indicated the two aspects of cask design that have the greatest influence on package behavior in extra-regulatory accident scenarios are the closure region and the impact limiter. For the HI-STAR 100 cask used in SFTRA, these are the two areas of the design that are the most complex. In the initial planning for SFTRA, it was recognized that the complexity of these two regions must be included in the cask models. The planning also included a change in the structural finite element analysis code that treats the interaction between different components (such as the impact limiter shell and energy-absorbing material) in a more physically correct manner. The interaction between the complexity of the structure and the added analysis code precision was not clearly understood by either the analysts or the

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code developers at SNL, and required substantial unplanned efforts both to adjust the cask model code and to achieve analytical success.

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In addition, the level of effort is being increased to provide a greater role, for the Principal Investigator, in drafting the NUREG document, and to provide increased support for the public comment and peer review phase of the project.

Task 2 modification. SNL developed a web-based visualization tool which will be changed to an electronic brochure. The web-based interactive electronic document entitled, "Understanding Cask Basics," and will better demonstrate the robustness of the casks used for transportation of spent nuclear fuel. Sicne the document was not developed for posting on the NRC website, and it did not meet NRC web protocols. An electronic brochure, that NRC will issue, will maintain the basic content and format of the information and make it readily available and accessible to members of the public. Development of the brochure, which was reviewed and commented on internally at NRC, will include content and format revision that SNL will complete.

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This revised "Statement of Work" (SOW) reflects the current estimated level of effort and schedule to complete this project. Section 6, "Schedule and Deliverables"; 7, "Period of Performance"; and 8, "Level of Effort," have been revised accordingly. The increase reflects that actual expenditures required to complete Tasks 1 and 2 are greater than originally estimated.

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Deleted: Section 17 has also been revised to comply with changes to NRC's organization conflict of interest clause.¶
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Objectives

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The objectives of this agreement are delineated below.

A. Perform an updated SFTRA, including modeling of spent fuel canisters and package impact limiters, prepare a draft final NUREG, and support the related public comment, peer review, and publication processes.

B. Provide technical support in the preparation of materials, including animations and graphics, to better inform the public about the level of safety provided by NRC's transportation safety regulations.

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C. Enhance public acceptance of spent fuel transportation risk estimates. Enhance staff understanding of code parameters. Perform analysis of fuel and material behavior and properties. Provide other technical support as assigned.

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2.0 Purpose

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The purpose of this agreement is to obtain an updated spent fuel shipment risk assessment and explanatory materials that will enhance NRC's outreach efforts (see "Background").

3.0 Expertise and Disciplines Required

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SNL will ensure that the Principal Investigator is a nationally and internationally recognized radioactive material packaging expert. The Principal Investigator must be a scientist or engineer with in-depth experience in package design and testing, who has recently assessed package performance under impact and/or thermal accident conditions. In particular, the Principal Investigator will have experience in conducting physical package testing, in the pre-

and post-test evaluation of containment systems, and in the application of package structural integrity evaluations to spent fuel shipment risk estimates.

The Principal Investigator will either perform or provide technical oversight and continuity during all work performed on this project. Therefore the Principal Investigator must possess outstanding oral and written communication skills.

5.0 Work to be Performed

Work requirements are delineated under the tasks below. Since specific needs in terms of these subject areas cannot be completely forecast in advance, this agreement will be modified to include additional tasks and to revise work requirements whenever other work is required under the tasks identified below. A proposal will be requested for any revisions to the updated work.

Task 1. SFTRA

SNL will conduct an SFTRA that updates the spent fuel transportation risk estimates in NUREG/CR-6672. This will be a generic-risk assessment, not a facility-specific assessment, although specific package designs and routes may be employed in the analysis. To the maximum extent practicable, SNL will use cask design models already developed by NRC for structural and thermal analyses. These models will be specified by the TPM, and include, for example, the truck and rail cask models developed for NRC by the U.S. Department of Energy's (DOE's) Pacific Northwest National Laboratory. The assessment will be informed by results of relevant security assessments, but will not evaluate security-related scenarios or impacts. This assessment will be performed primarily by using computer analysis (although small-scale or bench testing might be included at the direction of the SFST TPM). This will be a useful tool in outreach efforts on communicating transport risks, and will complement the work done on the Baltimore and Caldecott tunnel fires.

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The SFTRA task will include the following subtasks:

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Subtask 1a. SNL will provide support, as needed, for publication of the revised transportation risk assessment as a NUREG document. SNL will prepare, and provide to NRC, the revised SFTRA, as a draft NUREG, in the appropriate format for (sequential) public comment and peer review.

Considering the end use of the document by the public, the clarity of explanation of the method used and results obtained, accessibility to the underlying assumptions and data, and overall readability of the NUREG, are paramount objectives of this effort. SNL will carefully plan and structure the document to meet the challenge of achieving these objectives. The NUREG report will be the primary focus of the entire task, and SNL management and staff will focus their efforts, from the outset, on the utility and quality aspects of the NUREG report.

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SNL will prepare responses to comments and reviews, and revise the draft NUREG in consultation with the Division of Spent Fuel Storage and Transporatation (SFST) TPM. With respect to explaining the relationships between the various components of the risk assessment to the public, SNL will consider and advise the SFST TPM on the utility of a hyperlinked version of the document, to be web- published at the draft NUREG/public comment stage. SNL will subsequently provide the SFST TPM with a draft final NUREG document to NRC, in the appropriate format.

The revision includes an increase in the estimated level of effort for the Principal Investigator role in authoring the draft NUREG report, and for SNL response to peer review and group and public comments. The change in the estimated level of effort for this subtask is 10 staff-weeks.

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Subtask 1b. SNL will analyze high-fidelity models of two rail cask designs (one with, and one without, an inner spent fuel canister) and one truck cask design (without an inner spent fuel canister), and their respective (fuel) contents, and their respective impact limiters.

Several current and proposed spent fuel transportation package designs include inner thin-walled canisters, to facilitate spent fuel handling and loading. These structures are not considered in the safety evaluation of the package design (i.e., no credit is given to the canister with respect to containment of package contents under either routine or accident conditions). Packages are certified as satisfying the regulatory requirements, regardless of the presence of canisters. Thus the canister has no bearing on safety determinations.

However, when performing risk assessments, the presence of canisters could affect risk-informed assessment of impacts from transporting spent fuel under accident conditions. The basic consideration is that a thin-walled canister is likely to readily deform during severe accidents. In some severe accidents, a leak path, for volatile fuel or particulates, that might otherwise be generated, could be blocked if the inner canister does not fail. If the canister does fail, the additional time required for materials to escape from the canister to the cask interior and then from the cask interior to the environment is likely to increase the amount of deposition on interior cask and canister surfaces, thus reducing the quantity of material released from the cask to the environment. This effect could lower risk estimates for impact accidents.

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Under fire conditions, an inner canister would have to be heated to the point of failure before any fuel material could be released to the interior of the cask, whose seals would also have to fail before material could be released outside the cask. Heating the canister to this point could require more severe thermal conditions than those needed to fail the cask seals alone. The more severe the thermal conditions for release are, the less likely it is that an accident will generate those conditions. Thus the use of canisters may lower the already low risks for release from casks involved in accidents with fires.

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However, canisters might also produce effects that would not be favorable to lower-risk estimates. SNL will evaluate the overall impact of the use of spent fuel canisters on spent fuel shipment risk estimates.

Additionally, previous SFTRA did not model impact limiters, or modeled them as pre-crushed (i.e., no credit was taken for the impact limiters). Impact limiters are known to provide protection during the majority of impact accidents, but were omitted from previous analyses because of the complexity in modeling the structure and deformation of the impact limiters. Impact limiters will be included in the finite-element modeling and evaluation of spent fuel cask behavior under accident conditions, in this subtask.

Finally, under this subtask, SNL will evaluate available information and update assumptions and parametric values used to estimate the behavior of fuels under impact- and/or fire-accident conditions.

The level of effort required for this subtask was underestimated in previous versions of the SOW. The degree of modeling complexity associated with the HI-STAR 100 impact limiter and the accurate depiction of the closure response were greater than anticipated. The change in level of effort to complete this subtask is 20 staff weeks.

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Subtask 1c. SNL will perform 3-D thermal analysis, including 3-D modeling of fuel assemblies, to improve predictions of spent fuel cask behavior during accidents involving fire.

Subtask 1d. SNL will perform other analyses to reduce uncertainty in the risk estimates and/or to corroborate previously used values, based on SNL review of previous and related work, SNL recommendation and consultation with SFST staff, and as directed by the TPM. This work may include scale testing of packaging components (e.g., bolt/closure system, calorimeter test on ground, etc.).

Subtask 1e. SNL will calculate spent fuel shipment risk estimates, under routine and accident conditions, using RADTRAN 6. SNL will address both population and (maximum) individual risks (the latter may involve the use of RISKIND). SNL will use available and appropriate event trees and shipment route models, including event trees with new wayside surface frequencies, and Transportation Routing Analysis Geographic Information System (TRAGIS)-based routes, with the most recently available Census population data.

Subtask 1f. Since past SFTRAs have used the uniform thermal boundary condition specified in 10 CFR 71.73 and only adjusted the duration of the fire, NRC now requires a full-scale rail-cask sized calorimeter test to measure the heat flux that is applied to a cask in a real fire. Real fires have non-uniform heating of the package both spatially and temporally, and the CAFE fire code of SNL is capable of modeling this behavior. To provide higher defensibility of the results calculated by the CAFE code, SNL shall compare the calculated heat flux to that measured in the calorimeter tests.

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This subtask was added in the previous revision of the SOW, but was minimally funded. In the project plan, at the time, it was envisioned that this work would augment work that SNL was to perform for DOE, but DOE funding levels were cut. The additional level of effort required to complete this subtask is 4 staff-weeks.

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Subtask 1g. SNL shall determine a package's response to impacts onto yielding targets. The primary analyses will be for impacts onto rigid targets. Since all real-world accidents involve impacts onto (or into) a target that has some degree of deformation, a way to correlate the damage of the package, determined from the analyses of package impacts onto rigid targets, to higher-speed impacts onto yielding targets, will be developed. In NUREG/CR-6672, this correlation was carried out using an energy-balance method. In this task, finite-element analyses of cask impacts onto selected yielding targets will be performed, to validate the energy-balance method.

This subtask is similar to subtask 1f, in that it was added in the last modification of the SOW and was anticipated to apply analyses performed for DOE to the casks used in this study. This activity was also cut by our DOE sponsor. The level of effort required to complete this subtask is 3 staff-weeks.

A key component of the SFTRA is the response that spent fuel casks will have to impact accidents. Previous work (from NUREG/CR-6672, and the "Package Performance Study") indicated that the cask closure is the region of the cask, which, if significantly damaged, could lead to release of radioactive contents. Therefore for a highly defensible risk assessment, it is imperative to determine the response of this region of the package

in the most accurate manner possible. The use of bolt sub-models with several hundred elements in a cross-section would be required for this type of assessment, but bolt models with this level of refinement cannot be used in the entire package model, because the analysis requires too many computer resources (even the fastest computers in the world working solely on this problem would take many days for each simulation). Therefore, the results from a detailed bolt model should be incorporated into the entire package model with a spot-weld, which is a single connection that represents the load-deflection behavior of the detailed bolt model.

Since no transportation risk assessment in the past has included this accuracy of closure response, and the technique is new, this subtask has been incorporated into this agreement.

Task 2. Transport Safety Visualizations

SFST staff has identified a need for visualizations, including graphics and animations, that could be used in public meetings, websites, and other venues, to facilitate the explanation of the public health and safety protection afforded by the current transportation safety system. The visualizations needed by NRC are in the areas of regulatory provisions and risk assessment.

The regulatory provision and risk assessment visualizations must be effective (i.e., they must convey the safety information in a fashion that is easy for the intended audience to grasp). The visualizations must be factual, rigorously accurate, and without promotional aspect. The visualizations will be subject to close scrutiny and critique by governmental and non-governmental organizations, alike.

Subtask 2a. Regulatory Provision Visualizations

With regard to regulatory provisions, the visualizations must translate, to the public, what 10 CFR Part 71 hypothetical accident conditions mean to safety, in terms that the public can readily identify and understand. Animations may be particularly well-suited for these visualization needs.

The point of these visualizations is to convey how rigorous and challenging the hypothetical accident test conditions are when compared to real-world (historical) transport accident conditions. In other words, why do we believe the regulations provide adequate safety when some real-world accident conditions (e.g., accident speed or fire duration) exceed those specified in the regulations?

A large part of the answer involves explaining those aspects of the test conditions and acceptance criteria that are not obvious (e.g., unyielding surfaces, engulfing fires, activity-release rates). Another part of the answer includes the assumptions used, in assessing package performance, that impart additional forces to the package, but that are unlikely to occur in real-world accidents (e.g., worst-case orientations, orthogonal impacts, etc.), and also includes ignoring factors that provide additional protection, for the package, that are likely to occur in real-world accidents (e.g., collapse of vehicle structures before package impact, contact with the ground, and other heat sinks, etc.). The performing organization will consider and recommend the extent to which these considerations should be addressed in the visualizations.

Specific example topics for visualizations include:

- Free drop through a distance of 9 m (30 ft) onto an essentially unyielding surface: The public may often focus only on the impact speed condition. Visualize protection afforded by certified packages during real-world, higher-speed, impacts, but onto yielding surfaces, to determine accident impacts.

- Fully engulfing fire test: The public may often focus only on the fire-temperature, or the fire-duration, condition. Visualize protection afforded by certified packages during real world, higher-temperature, longer-duration, but non-engulfing accident fires.

- Test acceptance criteria: The public often overlooks the stringent post-hypothetical accident-test-activity release and radiation-level limits that must be satisfied for package certification. Visualize minimum post-test releases/radiation levels that would result in rejection of package design.

In addition to considering the examples above, the performing organization will review all the hypothetical accident test conditions and acceptance criteria, and will provide and discuss alternatives as how best to clearly and simply depict and convey the real-world safety, afforded by the regulatory provisions, to the public. This review will include discussions with the SFST TPM and NRC staff, on difficulties that have been encountered in public meetings related to this and related topics.

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Subtask 2b. Risk Assessment Visualizations

With regard to risk assessment, the visualizations must define what risk means in the context of spent fuel shipments, with equal weighting to the consequence and probability components. We believe that risk comparisons should be avoided in the visualizations. For example, perhaps some form of progressive consideration of risk could be illustrated:

- What portion of expected shipments will be involved in an accident?

- What portion of accidents will be severe?

- What portion of severe accidents will be mitigated by the package?

- What portion of severe accidents will be severe enough to cause any release?

- How long between such accidents at expected shipping rates?

- What is the chance of still more severe accidents, and how frequently might they occur?

- How does the magnitude of these latter transport risks compare with the risks of operating facilities also regulated by NRC?

- Why do we believe that, on balance, likely actual risks are less than the (small) estimated risks?

- When does NRC conclude that risks are acceptably small?

The performing organization will consider these and other examples, and provide alternatives for visualizations for spent fuel shipment risk assessments, such as those presented in previous risk assessment studies and in environmental impact statements.

Actual topics for the regulatory provision and risk assessment visualizations will be selected by the SFST TPM, and may include topics other than the examples provided above. The performing organization will obtain approval from the SFST TPM, of visualization content, before production of final visualizations begins.

The added level of effort to change the visualization tool from web-based to an electronic brochure and to incorporate the results of the Task 1 analyses is 6 staff-weeks.

6.0 Deliverables and Schedule (Including Meetings)

The deliverables required under each subtask with the anticipated time for delivery are provided below. All deliverables will be provided to the SFST TPM.

Deliverables:

Task 1.

The deliverable for Task 1 will be a comprehensive NUREG report that provides spent fuel shipment risk estimates, including the analytical (and testing, if any) results. The report will also describe the approach, methods, assumptions, input data, and calculations used. A comparative analysis with previous studies of spent fuel package behavior and shipment risks will be included. The report will also contain an overall assessment of the confidence in the results provided, including a discussion of any caveats that may apply, as well as any sensitivities or uncertainties associated with the results. SNL will organize, illustrate, and write the report for the general public.

The deliverable will be provided to the SFST TPM initially as a draft NUREG report; this report should comply with applicable NRC format requirements and be suitable for web posting. After SNL has responded to public and peer review comments and revised the draft NUREG report in consultation with SFST staff, SNL will provide the TPM with a draft final NUREG in the applicable NRC format.

Task 2.

Provide support for development of the electronic brochure to be issued in concert with SNL's draft NUREG document.

Schedule of remaining milestones for Task 1:

1/5/10	SNL submits draft "Spent Fuel Transport Risk Assessment" NUREG to NRC.
3/2/10	SFST completes review of draft report and provides comments to SNL.
3/30/10	SNL provides revised draft SFTRA NUREG based on SFST comments.
5/25/10	NRC publishes draft NUREG (in Federal Register Notice).
7/5/10	SFST provides public comments to peer review group.
7/27/10	Public comment period closes.
9/23/10	Peer review group requests clarifications from SNL, including SNL proposed responses to public comments.
11/18/10	Peer review group provides final findings to SFST and SNL.
12/15/10	SNL provides responses to public and peer comments to SFST.
1/27/11	SFST provides final comments to SNL.
4/21/11	SNL submits final report to NRC.

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The SFST TPM will provide comments, to the performing organization, to be considered in the preparation of the draft and final NUREG reports. These comments will identify potential problem areas, discrepancies, and technical insights on the draft materials and reports. SNL will provide draft documents of the NUREG technical report and the responses to public and peer-reviewed comments. All reports will be edited and reviewed by the performing organization and checked in accordance with the quality assurance requirements, addressed later, under Section 13.0. Within the above schedule and after receipt of NRC comments, the performing organization will revise the interim materials, results, and draft reports, incorporating resolution of comments, and submit an NRC-compatible, electronic media copy of the final materials and reports.

7.0 Period of Performance

The period of performance for this project started in June 2005, and will continue until November 2011.

8.0 Estimated level of Effort

The estimated level of effort for this project is identified below.

Task 1. 185 staff-weeks

Task 2. 21 staff-weeks

9.0 Meetings and Travel

It is estimated that one trip, each year, to Rockville, MD, to consult with, and brief, NRC staff, will be required during fiscal year (FY) 09, FY10 and FY11.

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SFST personnel may meet periodically at the performing organization's facilities, as mutually agreed, to review interim progress on tasks throughout the period of performance. SNL will prepare meeting notes, including identification of Action Items. Disposition of Action Items will be tracked in the Monthly Letter Status Reports (MLSRs). Meeting notes will be distributed in accordance with Section 11.0 of this SOW.

10.0 Project Status Reports

The performing organization shall submit a MLSR by the 20th day of each month, with distribution as shown below. The MLSR should contain, at a minimum, all the required information, as shown in MD 11.7, Exhibit 4, "Monthly Letter Status Report Requirements."

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11.0 Distribution of Deliverables

The following summarizes the required report distribution under this SOW. The NMSS TPM shall provide the performing organization with current NRC mailing addresses for this distribution.

Tasks 1and 2

Distribution	Monthly Letter Status Reports	Meetings, Workshops, & Trip Reports	Draft Formal Tech. Reports	Final Formal Tech. Reports
NMSS TPM	1	1	1	1
NMSS TAPM	1	1	5	1*
SFST Program Coordinator	1			
Div. of Freedom of Info. and Pub. Services	0	0	0	1

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* Camera-ready and electronic media

An electronic copy of the MLSRs shall be sent to the Division of Contracts, Office of Administration, to Beverly Anker, at Beverly.Anker@nrc.gov.

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12.0 Technical/Project Direction

TAPM: Penny Kinney
TPM: John Cook

The NMSS TAPM is the focal point for all contract-related activities. All work assignments and program funding actions are initiated by the NMSS TAPM. All proposed work scope or schedule changes must be processed through the NMSS TAPM.

The NMSS TPM is responsible for providing technical guidance, to the performing organization, regarding staff interpretations of the technical aspects of regulatory requirements, along with copies of relevant documents (e.g., Regulatory Guides), when requested by the performing organization. All work products must be reviewed and approved by the NMSS TPM before they are submitted as final documents. All technical direction given to the performing organization must be consistent with the work scope and schedule. The NMSS TPM is not authorized to unilaterally make changes to the approved work scope or schedule, or give the performing organization any direction that would increase costs over approved levels. Directions for changes in cost or the period of performance will be provided by the DOE Operations Office, after receipt of an approved Standard Order for DOE Work (NRC Form 173) from NMSS. If the performing organization receives guidance that is believed to be invalid, under the criteria cited above, the performing organization shall immediately notify the NMSS TAPM. If the NMSS TAPM and the performing organization are unable to resolve the question within 5 days, the performing organization shall notify the DOE Operations Office.

13.0 Quality Assurance (QA)

13.1 - For all draft and final reports delivered under this agreement, the performing organization shall assure that an independent review and verification of all numerical computations and mathematical equations and derivations are verified by qualified personnel other than the original author(s) of the reports. If the performing organization proposes to verify/check less than 100 percent of all computations and mathematical equations and derivations in the report(s) (such as might be the case when there are a large number of routine, repetitive calculations), the performing organization must first obtain written approval from the NMSS TPM. Computer-generated calculations will not require verification where the computer program has already been verified. The NMSS TPM has the option of auditing all documentation, including project correspondence, drafts, calculations, and unrefined data.

13.2 - In addition, all reports, including those that do not contain numerical analyses, must be reviewed by the performing organization's management and approved with two signatures, one of which is for the performing organization's management at a level above the program manager.

13.3 - When revisions for the reports are issued, a section must be included in the revised report, to document dates of, reasons for, and the scope of all changes made since the issuance of the first performing organization's approved report.

13.4 - NRC has the option of appointing a Peer Group to review the draft report and make changes to the final report. The performing organization may recommend candidates for the Peer Group, for approval by the NMSS TPM. If there is dissent regarding the content of the final report, the dissenting party will have the option of stating its viewpoints and findings in a section of the report. Alternative QA plans should be submitted for NRC review and approval.

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14.0 Disposal of Property

Management of property purchased under this Interagency Agreement will follow the procedures as stated in Part 9 of MD 11.7.

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15.0 DOE-Acquired Material

Laboratories shall submit written requests to NMSS (Attn: Director, PBPA) and the NMSS TPM, 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 NMSS TPM shall approve, or disapprove, the acquisition or development of any additional items, in writing.

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DOE laboratories shall report property, including software, with an acquisition cost of $500 or more in the MLSR, in the month the property or software was acquired. DOE laboratories shall forward a copy of all MLSRs to the NRC Division of Contracts, Office of Administration, in addition to regular distribution. For each item reported in the MLSR, as appropriate, DOE laboratories shall provide the information listed in Part 9 of MD 11.7, *NRC Procedures for Placement and Monitoring of Work with the U.S. Department of Energy.*

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16.0 NRC-Furnished Material

None

17.0 Organizational Conflict of Interest Disclosure

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 support services. DOE further recognizes that the assignment of NRC work to DOE laboratories must satisfy NRC's conflict standards. Accordingly, when NRC enters into an agreement with a DOE laboratory to perform work for NRC, and during the life of the agreement, the laboratory shall review and promptly disclose its current work, planned work, and, where appropriate, past work, for DOE and others. This means organizations in the same, or similar, technical area, as the NRC project scope of work, including, but not limited to, NRC licensees, vendors, industry groups, or research institutes, that represent, or are substantially comprised of, nuclear utilities, used for work in the same or similar technical area as the proposed NRC project. Disclosures for current or planned work for DOE or others in the same or similar technical area as the proposed work, are to include: (1) the name of organization; (2) dollar value; (3) period of performance of the work identified; and (4) SOWs for the projects. NRC shall then determine whether a conflict would result and, if one does, determine, after consultation with the DOE laboratory, the appropriate action NRC or the DOE laboratory should take to avoid the conflict, or when appropriate under the NRC procedures, waive the conflict. If the laboratory determines there is no applicable work in the same or similar technical area it should be stated in its proposal.

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