

DATE

MEMORANDUM TO: Chairman Klein
FROM: R. William Borchardt
Executive Director for Operations

James Dyer
Chief Financial Officer

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SUBJECT: CHARIMAN REVIEW OF AN ACQUISITION FOR SPENT FUEL
TRANSPORT RISK ASSESSMENT

In accordance with January 24, 2005, Delegation of Contractual Authority memorandum, you are requested to review the project described in the draft Statement of Work (SOW) (Enclosure 1) and to provide to the Contracting Officer/Program Office Director notification to proceed with the subject contract/agreement. This project is an appropriate agency action conforming to Commission budget and program management decisions, and does not duplicate any other NRC work.

Describe how this work can best be carried out by the chosen type of action, compared to alternatives (in-house, contract, small business set aside, sole source, task order contract, DOE laboratory, interagency agreement, other) and why. Note: SOW must clearly differentiate between contracted work and staff work.

Indicate whether project is to complete or maintain a requirement

NMSS staff believe this acquisition supports Commission direction that "...regulatory policy concerning transportation of radioactive material be subject to close and continuing review" (46 FR 21620). The Commission could use the updated risk assessment and comments to review its conclusion, with respect to spent fuel transport, that "present regulations [i.e., 10 CFR Part 71] adequately protect the public against unreasonable risk from the transport of radioactive materials" (46 FR 21620, published April 13, 1981). The results of the project would also assist NMSS/SFST staff in the review of environmental assessments and impact statements related to interim spent fuel storage facilities.

Comment: [JG2]: Interim Guidance Paper. Guidance states paper should include summary information on how the office determined the best means to accomplish/procure the work (the need/appropriateness for a DOE Lab Agreement.)

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Indicate whether project is for new programmatic work or a procurement modification for continuation of work

Provide an explanation for the selection of a DOE laboratory... for performance of the proposed work/project in lieu of a commercial vendor and/or NRC in-house staff (e.g., include 3 - 5 statements that make a strong case for placing work at a particular DOE laboratory vs. competing the work under a contract).

Deleted: This is a modification to an existing agreement with the U.S. Department of Energy (DOE) Laboratory, SNL. ¶

CONTACT: John Cook, NMSS/SFST, 301-492-3318
Penelope Kinney, NMSS/PBPA, 301-492-3248

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Staff believes Sandia National Laboratory (SNL) should perform this work because it follows-on from work SNL previously performed in developing NUREG/CR-6672, "Reexamination of Spent Fuel Shipment Risk Estimates" published in March 2000. SNL also has developed the key transport campaign risk assessment code. Additionally SNL is recognized for their world-renowned expertise and credibility in transport package design, analysis, and evaluation under normal and accident conditions. In the absence of a more qualified organization SNL can best carry out the completion of this project.

Comment: [JG4]: SNL has familiarity with the project. Additionally, it would be more time- and knowledge-efficient to have SNL continue and complete the project vs. having a new contractor come in and have to develop the background knowledge from scratch.

Procurement Method: The project is an agreement with the U.S. Department of Energy's (DOE) Sandia National Laboratory, (SNL).

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Title: Spent Fuel Transport Risk Assessment

Comment: [JG5]: I've been using the terms "contract" and "agreement" interchangeably.

Type of Action: This is a modification to an existing agreement which was approved by Chairman Diaz on May 5, 2006, for a total project cost of \$1,230,000.

Deleted: [CONTACT: John Cook, NMSS/SFST, 301-492-XXXX] Penelope Kinney, NMSS/XXXX, 301-492-XXXX]

Program/Contract Background: In accordance with the Staff Requirements Memorandum, SECY-04-0201, "Chairman Review Thresholds for Contractual Decisions," dated December 14, 2004, a copy of the draft Statement of Work (SOW) for the subject project is provided for your review. This project is an appropriate Agency action conforming to Commission budget and program management decisions, and does not duplicate any other NRC work.

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Comment: [JG6]: Do we include a discussion of organizational conflict of interests (OCOI)? And if so, how do I go about finding OCOI? Guidance says: Identify any OCOI issues that may have arisen concerning related work or a potential contract entity. Identify any potential OCOI and its disposition.

The U.S. Nuclear Regulatory Commission (NRC) provided spent fuel transport impact study results in the following reports: (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. Although the studies have demonstrated that spent fuel shipment risks are low, NRC staff has identified a number of technical factors since the last effort was completed that require evaluation in order to refine spent fuel shipment risk estimates. The staff has completed spent fuel security assessments, and those results can be leveraged to improve the assessment of spent fuel transport risks. Periodic reviews of transportation risk estimates will support Commission direction that "...regulatory policy concerning transportation of radioactive material be subject to close and continuing review" (46 FR 21620). Potentially, the Commission could use the outcome of this assessment, including public comments, to review its conclusion, with respect to spent fuel transport, that the regulations (i.e., 10 CFR Part 71) adequately protect the public against unreasonable risk from the transport of radioactive materials.

Comment: [JG7]: Interim Guidance states that this section should include information on any related contracts and information on any contract extensions, bridge contracts, and contract expirations.

Comment: [JG8]: Guidance says to identify any SRM, policy guidance, or other authority directing the work. The verbiage here is from a previous Memo for the same project. I don't think that the referenced SRM directs the project, it sounds like the SRM directs the Chairman Memo.

If a follow-on contract or a modification, state whether and extension (or multiple extensions) was issued, and why.

Comment: [JG9]: Extension of dates? I'm not sure about the 9/2011 date.

This modification is needed to expand the work that was identified in the original statement of work, approved by Chairman Diaz in May 2006 and initiated in June 2006. Since the Chairman's approval in May 2006, staff has identified two new areas that would benefit from being performed: (1) a full-scaled rail cask calorimeter test to measure the heat flux that is applied to a cask in a real life accident(?), and (2) finite element analyses of cask impacts onto select yielding targets. The period of performance will need to be extended from September 2008 to September 2011, to allow completion of these efforts.

Comment: [JG10]: Will include justification for increase here

What did the prior contract(s) accomplish?

Deleted: e only extension identified was in the date the project comes to closure: September 2011 (other dates were modified to agree with 9/2011 date).

Have there been previous modifications or extensions?

No.

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How long has this type of work been conducted by the Agency?
This project was initiated in June 2005.

Are there new requirements?

Yes. [Stick in what work has been added and why]

What is the expected outcome of the new contract?

There is no change in the expected outcome of this agreement, but there is an expansion in the scope of issues that are being considered. This is not a new contract. It's the same contract, the expected outcome is the same: a NUREG.

Comment: [JG11]: Not sure about the dates of mods previously made will have to track exact dates down

Have all tasks from the prior contract been completed? If not, what tasks will be continued?

No, not all tasks from previous contract have been completed.

Deleted: Yes, there have been previous modifications

Is the new contract dependent on the previous contract being completed?

Again, this is a modification to a contract already in place.

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Is funding being moved?

Yes, funds are being moved and additional funds have been acquired.

Comment: [JG12]: Will have to talk to John Cook about specifics. I know that additional tasks will be added: see my email re justification for increase and CBajwa's brochure

Do we need to continue to do the work the same way, why or why not?

Description/Scope:

The Office of Nuclear Material Safety and Safeguards (NMSS) plans to add \$580,300 to an existing agreement with SNL of \$1,230,000, resulting in a total estimated cost of \$1,810,300. The modification to the agreement will allow for completion of the Spent Fuel Transport Risk Assessment effort conducted by Sandia National Laboratory. Work to date on the existing agreement has focused on updating the analysis of transport risk estimates, and documentation of the results in a draft NUREG which will receive public review and comment.

Comment: [JG13]: See Elise re the additional \$19K JCook requested and the additional \$ CBajwa mentioned for e-brochure

Comment: [JG14]: This is the description/scope from the last revision to the chairman memo

Include all future phases of the anticipated work to be performed for the full period of performance, whether or not budgeted. Include whether the purpose of this procurement is to complete something or maintain something.

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For modifications to an existing procurement:

Summarize the status of work for the project (e.g., how long has this specific type of work been conducted by the agency, previous modifications or extensions, new requirements, whether all tasks from the prior contract been completed, whether tasks from the previous contract being transferred to the new contract, whether new contract dependent on the previous contract being completed, and whether any funding is being moved.

Comment: [JG15]: Elaborate

Comment: [JG16]: I will need to meet w/ JCook to develop responses to some of these questions

Address goals met and goals to be met (i.e., status of deliverables, remaining efforts, monies spent and products received as a result of monies spent. Describe whether there is a need to continue to do the work the same way, why or why not.

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Key Milestones/Outputs:

SNL will update the spent fuel transportation risk estimates that SNL performed in NUREG/CR-6672. That effort was sponsored by NMSS/SFST and published in March 2000. This will be a generic risk assessment, not a facility specific assessment, although specific package designs will be employed in the analysis. 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 computer analysis, will be useful in outreach efforts on communicating transport risks, and will complement the work done on the Baltimore and Caldecott tunnel fires. NMSS/SFST: (1) managed the original NUREG-6672 effort, and is managing the existing risk assessment agreement with SNL the attached draft SOW would modify; (2) has an established working relationship with SNL in the requisite spent nuclear fuel cask technical disciplines; and (3) will be the principal user of the results. Accordingly, NMSS/SFST will manage the modified agreement.

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Chairman's approval was requested and received for SNL assistance on an updated analysis of transportation risk estimates; documentation of the findings in a draft NUREG report; support of the public comment, peer review and publication processes; and technical support on public outreach regarding the level of safety provided in NRC's transportation regulations.

Since the Chairman's approval in May 2006, staff has identified two new areas that would benefit from being performed: (1) a full-scaled rail cask calorimeter test to measure the heat flux that is applied to a cask in a real life accident(?), and (2) finite element analyses of cask impacts onto select yielding targets. (EXPAND)

Comment: [JG17]: Will include justification for increase here

Relationship of the Work To the Agency's Goals and Objectives:

This task is primarily intended to support NMSS/SFST reviews of environmental impact statements, environmental reports and other transportation-related environmental reviews for other future plants; or other facility licensing actions that involve spent fuel shipments. A secondary purpose is to support openness and outreach efforts associated with spent fuel transportation.

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NMSS/SFST has previously studied spent fuel transport impacts and found that spent fuel shipment risks are low. However, the public remains concerned about spent fuel shipments in anticipation of shipment campaigns to storage and/or disposal facilities. Staff has completed spent fuel cask security assessments, and believes those results can be leveraged to improve the assessment of spent fuel transport risk estimates. Staff also has new capability to better model spent fuel cask components and their effects on transport risk estimates, and believes the results could be used to represent more realistic

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transportation risk assessments which would also further address public concerns. Staff believes that anticipated spent fuel shipments provide a timely opportunity to perform an updated assessment of spent fuel transport risk estimates.

In addition, this effort would further risk-inform the Commission's technical basis for conclusions regarding spent fuel shipment safety, increase public understanding of spent fuel shipment risks and may, through public participation in the NUREG comment process, help to alleviate public concerns in this area. In this regard, the effort supports NRC's Strategic Plan openness objective of appropriately informing and involving stakeholders in the regulatory process."

Period of Performance: Commencement date of modification: Ongoing
Completion date: September 30, 2011

Chairman Action Needed By: July 14, 2009

Include all future phases of the anticipated work to be performed, whether or not budgeted.

Total Estimated Cost: \$1,810,3000 (includes FY 2009 funding of \$350,000)

Estimated Cost By FY: FY 2009: \$350,000
FY 2010: \$25,700
FY 2011: \$75,000

Budget Availability: The Office of Nuclear Material Safety and Safeguards has budgeted \$350,000 for this effort in FY 2009 and \$25,000 in FY 2010. Contract support of \$75,000 is included in the base budget request for FY 2011 as part of the Planning, Budgeting, and Performance management process. All prior year funds were expended by December 31, 2008. FY 2009 budgeted funds are needed for completion of the original effort, and the expansion discussed in this paper (projected carryover from FY 2009 into FY 2010 is forecast to be \$120K)

Job Code/Program/
Planned Activity: J5546

Organizational Conflicts
Of Interest: NMSS will consider all pertinent requirements associated with organizational conflicts of interest (OCOI) for this project, including Sandia's role and activities for the Department of Energy's Office of Civilian Radioactive Waste, in accordance with the NRC requirements stated in Management Directive 11.7, "NRC Procedures for Placement and Monitoring of Work with the U.S. Department of Energy and the Nuclear Regulatory Commission Acquisition Regulation, Subpart 2009.5, and will ensure compliance with OCOI requirements with regard to placement of the resulting agreement.

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- Comment [JG18]: Date should indicated date action is needed by Chairman for office to have necessary time to release award to support the period of performance start date. This date should include the 30 day Chairman review period, 30 work days for Chairman, 15 work days for POC
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- Comment [JG19]: Need to include language for significant increase bet FY costs that discusses programmatic work changes.
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It is requested that all budget information concerning this project be guarded as official use only until after the agreement is awarded.

The Office of the General Counsel has reviewed this paper and has no legal objection. [no CFO reference, since he is co-signing?]

The Contracting Officer/Program Office Director requests your approval/notification to proceed with this action. If you or your staff desire, a briefing on the project can be provided.

Enclosures: 1. Draft Statement of Work

- cc: Commissioner Lyons
Commissioner Jaczko
Commissioner Svinicki
OGC
SECY
OPA
OCA
OCFO

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