

From: Jason Schaperow
To: Jocelyn Mitchell
Date: Thu, May 4, 2000 4:49 PM
Subject: Proposed Mod for MACCS Project

Please see attached.

CC: Charles Tinkler

I-24

MEMORANDUM TO: Thomas L. King, Director
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

THRU: Cheryl A. Trottier, Chief
Radiation Protection, Environmental Risk, and Waste Management
Branch
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

FROM: Jocelyn A. Mitchell, Project Manager
Radiation Protection, Environmental Risk, and Waste Management
Branch
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

SUBJECT: REQUEST TO MODIFY THE STATEMENT OF WORK FOR JOB
CODE xxxx

I recommend that the Form 189, dated xxxx, for Job Code xxxx, Project Title xxxxx, be modified per the attached modification. The basis for my recommendation is the following:

This modification adds a task to provide consultation and assistance in applying the MACCS code to evaluate the radiological consequences from reactor accidents and accidents involving spent fuel. This task will be used to evaluate the effect on spent fuel pool accidents of additional plume spreading to address concerns raised by the ACRS in their April 2000 meeting on the rulemaking effort for decommissioning reactors.

A total of 1 staff-month (\$22K) is estimated for this work. The estimated cost is justified by the knowledge to be gained.

The best people will be used. Julie Gregory, who is an experienced accident analyst, will perform the work.

An appropriate level of peer review has been incorporated into the project. The work will be reviewed in-house by NRC staff experience¹ in consequence assessment.

The results of this task will be used to address one of the concerns raised by the ACRS in its review of the rulemaking effort for decommissioning reactors.

This modification does not affect the Operating Plan.

Attachments:

1. Proposed Modification

2. Urgency Statement
3. Current Form 189

OFFICE OF NUCLEAR REGULATORY RESEARCH
DIVISION OF RISK ANALYSIS AND APPLICATIONS

MODIFICATION TO THE FORM 189 FOR JOB CODE xxxx

GENERAL INFORMATION

TITLE:

JOB CODE:
CONTRACTOR: SNL
SITE: Albuquerque
STATE: New Mexico

NRC PROJECT MANAGER: Jocelyn Mitchell (301)415-xxxx

PRINCIPAL INVESTIGATOR: Julie Gregory (505)xxx-xxxx

BUDGET ACTIVITY:

WORK PERIOD:

The following change is proposed to the SNL Form 189 dated xxxx:

Add the following task:

Task xx -- Consequence Assessment Consultation and Assistance

The contractor will assist the NRC in the area of consequence assessment, as directed by the NRC project manager or other NRC personnel as requested by the NRC project manager. This task includes consultation and assistance in applying the MACCS code to evaluate the radiological consequences from reactor accidents and accidents involving spent fuel. This effort is to provide consultation and assistance within the constraints of the resources allocated.

Specific work to be performed under this task includes evaluating the effect of additional plume spreading on the radiological consequences of spent fuel pool accidents. The evaluation should include cases with and without early evacuation. The NRC will provide the MACCS input files to be used as the starting point for the evaluation. The contractor should revise the input files or code as necessary to simulate the plume spreading results of the expert elicitation which is documented in report xxxx. Then, the contractor should run the revised input files or code to evaluate the effect of the additional plume spreading on the radiological consequences of spent fuel pool accidents. The results of the evaluation should be documented in a letter report by May 23, 2000. Additional analyses and reports will be specified by the NRC as needed.

Estimated level of effort: 1 staff-month

Estimated completion date:

URGENCY STATEMENT

JOB CODE:

TITLE:

DOE LABORATORY: SANDIA NATIONAL LABORATORIES

SNL has developed and applied the MELCOR Accident Consequence Code System (MACCS) for evaluating consequences of operating reactor accidents and accidents involving spent fuel. The NRC has recently performed in-house calculations with MACCS to assess the radiological consequences of spent fuel pool accidents as part of the NRC effort to develop a rule for decommissioning reactors. The ACRS raised a number of technical issues with the rulemaking including the plume modeling in MACCS and suggested that the rulemaking be placed on hold until these issues are addressed. NRC in-house resources are committed to other high priority work. Therefore, the subject modification (for SNL to address the issue of plume modeling in MACCS and its effect on offsite consequences) is urgently needed to help avoid schedule slippage of the ongoing rulemaking effort for decommissioning reactors.