

INTERIM REPORT

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Contract Program or Project Title: Fission Product Transport Analysis

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Prepared for  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

INTERIM REPORT

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November 21, 1978

Mr. Richard Sherry  
Fuel Behavior Research Branch  
Division of Reactor Safety Research  
Office of Nuclear Regulatory Research  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Rick:

Program Title/Activity Identification

Fission Product Transport Analysis.

Current Progress and Technical Highlights

In October, major efforts were concerned with the TRAP-MELT uncertainty analysis, continuation of the particle deposition experiments, and preparation of a work plan for the vapor deposition experiments. It was necessary to make several minor changes in the TRAP-MELT code so that calculations known to be unnecessary in the specific uncertainty analysis calculations were eliminated and, in general, so that the code would operate more efficiently in these special analyses.

The input variables have been specified and variable ranges are being set for use in the uncertainty analysis. In the uncertainty analysis, a sensitivity methodology using statistical designs is being used whereby a simple analysis of variance of the response surface is used to rank variables. Statistical designs appropriate for the uncertainty analysis which will display main effects and two-factor interactions have been generated through use of the CREED code, and the approach to the uncertainty analysis computer runs specified.

Final checkout of the experimental particle deposition apparatus was completed after making some minor equipment improvements and experiments were initiated. Preparation of a work plan for the vapor deposition experiments was begun.

NRC Research and Technical  
Assistance Report



Anticipated Accomplishments for November

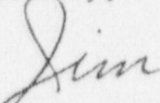
In the next month it is expected that the particle deposition experiments will continue and the vapor deposition work plan will be completed. Computer runs for the uncertainty analysis will be initiated within the framework of the established statistical design.

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The estimated and actual cumulative costs are shown in Figure 1.

Sincerely,



James A. Gieseke, Research Leader  
Physico-Chemical Systems, Atmospheric  
Science & Aerosol Technology Section

JAG:ld

Attachment

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