LETTER REPORT

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December 16, 1980

G. S. Lewis
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Safeguards, Fuel Cycle and
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U.S. Nuclear Regulatory Commission
Mail Stop 1130-SS
Washington, DC 20555

Dear Lew:

ACCIDENT AEROSOL CHARACTERIZATION--DECEMBER MONTHLY REPORT

Through November, 19.6% or $83.8K of the available operating funds have been spent.

PROJECT MANAGEMENT

FY-81 operating expenditures through November 30, 1980 were $83.8K, which is 19.6% of the available $427K. The corresponding working period (October 1-November 30) was 16.3% of available time in FY-81. The expenditures since the last report were $46.0K.

Re: enclosed PNL SCHEDULE/PROGRESS OF DELIVERABLES-FY-81. The Accident Analysis Handbook inputs and Literature Survey Document in Task A and the Combustion Experimental Plan in Task C are behind the original schedule as noted in the task reports below. All other deliverables are near the expected degree of completion.

TASK A. LITERATURE REVIEW, PROGRAM PLANNING, HANDBOOK INPUT

The Literature Review Document is about one month behind schedule now. The first draft of the part concerning Task B is being reviewed internally. The other parts (fire particulates, compartment flow and particle models, and compartment fire models) have received considerable attention in November but they are still not at the draft writing stage.

The Program Planning Document is receiving the rewrite attention at LASL first.

PNL has reviewed the new Accident Analysis Handbook format (October 1980 RRG meeting) and has submitted a letter November 17 to G.S. Lewis with details of this review. This review was discussed November 21 by P.C. Owzarski, G.S. Lewis, J. Ayer, T. Clark, and P. Loysen at Silver Spring. Many points were discussed and final acceptance of a format was deferred to a later time where LASL would have input. It was agreed that PNL and LASL would have to jointly decide on technical editing protocol. It was agreed by NRC that Anderson RFP will serve as the model MOX facility and Barnwell AGNS as the model reprocessing facility.

The previous schedule of deliverables for the MOX Plant Chapters 3-6 is no longer valid for the new format due to the loss of time (nearly two months) in the change to the new format and to the decision to use Anderson as the model for sample problems. A new schedule, like the one proposed in the November 17 letter, still depends on LASL's review and our own staff availability before it can be agreed to.

TASK B. AEROSOL GENERATION EXPERIMENTS

The remaining free fall experiments outlined in the May 1980 planning document "Experiments Proposed to Measure Aerosols Generated by Free Fall Spills of Depleted Uranium Powders and Natural Uranium Solutions" were completed in the RART in November. All powder uranium and five liquid uranium run samples have been analyzed.

Additional free fall RART experiments suggested at the last RRG meeting and afterward are being considered for the period after the pressurized runs are completed (June 1981).

A five minute video tape presentation of the free fall and pressurized release experiments has been prepared. It will be available by mid December after clearance proceedings.

Pressurized releases of TiO_2 have recommenced. The earlier tests have been useful to prove the equipment and should also be useful data within the final data matrix. The experimental matrix components have not been completely determined. December tests will determine if powder quantity is of significance.

All deliverables in this task are on schedule.

TASK C. FIRE GENERATED PARTICULATE TESTS

An internal report that considers experimental design, experimental operations and preliminary experiments has been reviewed in November. This report will constitute part of the experimental plan due in January 1981. This deliverable will likely be one month late.

TASK G. ANALYTICAL MODEL VERIFICATION/SUBSTANTIATION

The 3-D SOLA code has been converted for use on the local UNIVAC. Trial runs in December should test the validity of the conversion.

Sincerely,

P. C. Owzarski
Applied Meteorology & Emissions Assessment
Atmospheric Sciences Department

PCO:dh

cc: WS Gregory/RA Martin - LASL
HW Godbee/EJ Fredrick - ORNL