



Pacific Northwest Laboratories
P.O. Box 999
Richland, Washington U.S.A. 99352
Telephone (509) 375-6852
Fax (509) 375-3693

December 13, 1989

Mr. W. Scott Pennington
Fuel Cycle Safety Branch
Division of Industrial and Medical Nuclear Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Pennington,

EVALUATION OF HEALTH EFFECTS IN SEQUOYAH FUELS CORPORATION (SFC) WORKERS FROM ACCIDENTAL EXPOSURES

This letter is the eighth monthly letter report on the project, "Evaluation of Health Effects in Sequoyah Fuels Corporation (SFC) Workers from Accidental Exposures." (FIN B2487-8)

Progress to Date and Major Accomplishments

A draft final report was sent to you by express mail on December 11, 1989. The report concludes that we did not find evidence of health effects from uranium among the 31 SFC workers for which medical laboratory and uranium bioassay measurement were provided. The bioassay data represent a valuable source of information on the early retention and clearance of inhaled soluble uranium. We used those data to develop a revised biokinetic model of uranium excretion from which it was possible to estimate initial intakes, kidney tissue concentrations, and radiation doses to major organs of SFC workers exposed to UF_6 .

We did not specifically address Regulatory Guide 8.22 or the MPC-hr exposure guidance in 10CFR20. Please suggest, if necessary, ways in which you feel that the report should be changed or amended to meet the needs of your office.

Work during the past reporting period included reassessment of the medical data, evaluation of chest-count data, further review of the relevant toxicology literature on the biological effects of uranium, and preparation of the draft final report. A copy of the draft final report was also forwarded to Dr. Keith Eckerman at ORNL for critical review and revision, where appropriate.

4/7

Mr. W. Scott Pennington
December 13, 1989
Page 2

Delays Encountered

Preparation of the draft report was delayed by conflicting commitments and year-end reporting requirements that stretched us thin for a while. We appreciate your remarkable patience and understanding. We expect a three-week delay between completion of the camera-ready copy and publication clearance and approval.

Agreements Reached with NRC Staff

A no-cost time extension until December 30, 1989 was requested and approved.

Problem Areas Requiring Resolution

By this letter we would like to request a 2 1/2 month, no-cost extension of the closing date of this project to March 15, 1990, to allow time for 1) further outside peer-review of the draft report, 2) technical review by your office, 3) incorporation of comments and production of the camera-ready final report, and 4) report clearance by PNL and DOE/RL. We plan to solicit peer review from Drs. Ed Wrenn (University of Utah) and Pat Durbin (UC-Berkeley). Because of the technical importance of the report to the NRC, and because it is important to insure the scientific quality of the analyses, we feel that this request for extension of the closing of this project will be beneficial to your office.

Personnel and Work Performed

Items relating to cost and personnel are shown in the attachment. If you have any question, please do not hesitate to contact the PNL Project Manager, Dr. Darrell R. Fisher, at (509)-375-6852.

Sincerely,



Darrell R. Fisher
Senior Research Scientist
Dosimetry Technology Section
Health Physics Department

DRF:sds

Enclosure

cc: RF Christensen, SLM/DOE/RL
WS Pennington, IMSB/NMSS/NRC (3 copies)
LC Rouse, IMSB/NMSS/NRC
Office of the Director, NMSS/NRC, ATTN: Program Management, Policy
Development and Analysis Staff
RL Kathren, PNL/HEHF
MJ Swint, HEHF

ENCLOSURE 1
COST STATUS BY ELEMENT

FIN: B2487/TD2596

TITLE: EVALUATION OF HEALTH EFFECTS IN SEQUOYAH FUELS
CORPORATION WORKERS FROM ACCIDENTAL EXPOSURES

PERIOD: AUGUST, SEPTEMBER, OCTOBER, AND NOVEMBER 1989

```
=====
```

| | Month, \$K | | | | FY1990 | Cumulative Cost |
|---|------------|-----------|----------|-----------|-----------|-----------------|
| | August | September | October* | November* | Year to | to Date, \$K |
| | 20.0 | 67.0 | 0 | 0 | Date, \$K | |
| | | | | | 0 | 340.5 |
| I. DIRECT STAFF EFFORT (man-hours of charged effort) | | | | | | |
| II. COST ELEMENTS | | | | | | |
| Direct Salaries | 0.6 | 2.3 | 0.0 | 0.0 | 0.0 | 10.7 |
| Materials and Services | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| ADP Support | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Subcontracts | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.5 |
| Travel | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| Indirect Labor Cost | 0.3 | 1.0 | 0.0 | 0.0 | 0.0 | 4.9 |
| Other (as needed) | 0.2 | 0.6 | 0.0 | 0.0 | 0.0 | 3.4 |
| General and Administrative Costs | 0.4 | 1.7 | 0.0 | 0.0 | 0.0 | 8.3 |
| TOTAL COSTS | 1.5 | 5.6 | 0.0 | 0.0 | 0.0 | 32.6 |
| III. FUNDING STATUS | | | | | | |
| Total Funding Authorized | | | | 47,500 | | |
| Prior Fiscal Year's Costs | | | | 32,600 | | |
| Carryover to FY1990 | | | | 14,900 | | |
| FY1990 Costs to Date | | | | 0 | | |
| Commitments | | | | 8,245 | | |
| Balance Remaining | | | | 6,655 | | |
| Percentage of Authorized Funds Spent | | | | 69% | | |
| Percentage of Authorized Funds Spent | | | | 86% | | |
| With Commitments | | | | | | |

*Costs for October and November are not available and will appear under the December monthly report.