



Pacific Northwest Laboratories  
P.O. Box 999  
Richland, Washington 99352  
Telephone: (509) 375-2530  
Telex: 13-874

December 14, 1984

Dr. M. S. Dunenfeld, Program Manager  
Core Performance Branch  
Division of Systems Integration  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Dr. Dunenfeld:

Attached is the November 1984 Monthly Activities Report for the Core Performance Branch programs at PNL relating to fuel performance.

Sincerely,

M. D. Freshley, Manager  
Nuclear Fuels and Materials Section

MDF:jz

Attachments

cc: HE Ransom (DOE-RL)  
Director, Division of Systems Integration,  
ATTN: SM Boyd  
CH Berlinger (NRC)  
~~BL Greiner (NRC)~~  
R Lobel (NRC)  
LS Rubenstein (NRC)  
JC Voglewede (NRC)

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PDR FOIA  
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BATTELLE, PACIFIC NORTHWEST LABORATORY

NOVEMBER 1984 MONTHLY ACTIVITIES REPORT  
FOR  
NRC CORE PERFORMANCE BRANCH PROGRAMS

EXECUTIVE SUMMARY

REVIEW OF HIGH BURNUP LICENSING TOPICAL REPORTS (B2533)

Meetings were held in Bethesda with NRC staff on two separate occasions to present the results of GT2R2 audit calculations of end-of-life rod pressures and to discuss vendor responses to NRC questions. Several conference calls were held between PNL, NRC and each of the fuel vendors.

FUEL OPERATING EXPERIENCE EVALUATION PROGRAM-V (B2539)

The draft of the "Fuel Performance Annual Report for 1983," NUREG/CR-3950 Vol. 1 (PNL-5210-1), was transmitted to the NRC for review (Milestone 1 of Task 3) as scheduled. PNL still lacks the input data from Exxon Nuclear.

FSAR (SECTION 4.2, FUEL) REVIEWS (B2544)

Information about several references in the Draft Safety Evaluation Report (DSER) input for Vogtle-1 and -2 was provided to the NRC Licensing Project Manager. Work was initiated on preparing the DSER input for South Texas-1 and -2.

PROJECT TITLE: FSAR (SECTION 4.2, FUEL) REVIEWS

OBJECTIVE:

The objective of this program is to provide for the review of the fuel designs as presented in the Final Safety Analysis Reports and resolution of all fuel-related issues for the following eight plants: Millstone-3, Washington Nuclear Project-3, Bellefonte, Nine Mile Point-2, Hope Creek, Beaver Valley-2, Vogtle, and South Texas. The reviews are to be conducted in accordance with acceptance criteria outlined in the Standard Review Plan (SRP), Section 4.2, Fuel System Design.

FIN NO. B2544

PRINCIPAL INVESTIGATOR: W. J. Bailey

PERIOD OF PERFORMANCE: October 1, 1983 to December 31, 1985

REPORT PERIOD: November 1984

PROJECT STATUS:

1. Work Completed During Period

Information about several references in the Draft Safety Evaluation Report (DSER) input for Vogtle-1 and -2 was provided to the NRC Licensing Project Manager. Work was initiated on preparing the DSER input for South Texas-1 and -2.

PNL is continuing to hold the revised NRC Form 189 as there is a question (see 2., below) about the funding needed to complete the work outlined for FY-1985 and FY-1986.

2. Problems or Delays

Because of funding reductions, the available funds (\$10.5K carryover from FY-1984) are not sufficient for the work planned in FY-1985 and FY-1986. It appears that an additional \$12K will be needed in FY-1985 and \$4K in FY-1986. As suggested by the NRC Project Manager, a revised NRC Form 189 will

not be submitted until the funding question is resolved. Also, it was indicated that some of the milestone dates may need to be changed to conform to revised NRC schedules.

### 3. Summary of Progress to Date

Questions related to the fuels portion of the FSARs for Millstone-3, Washington Nuclear Project-3, Nine Mile Point-2, Hope Creek, Beaver Valley-2, and Marble Hill (Milestone 1 in each of Tasks 1, 4, 5, 6, and 7, respectively) were transmitted to the NRC as scheduled and for Vogtle-1 and -2 (Milestone 1 of Task 8) one month ahead of schedule, as promised. The Draft Safety Evaluation Report inputs for Millstone-3, Washington Nuclear Project-3, Bellefonte, and Beaver Valley-2 (Milestone 2 in each of Tasks 1, 2, 3, and 6, respectively) were transmitted to the NRC as scheduled and for Vogtle-1 and -2 (Milestone 2 of Task 8) one week ahead of schedule, as promised. The Safety Evaluation Report input for Millstone-3 (Milestone 3 in Task 1) was transmitted to the NRC by April 15, 1984, as scheduled and the input for Millstone-3 was updated and transmitted to the NRC on June 29, 1984, as promised. The Safety Evaluation Report input for Beaver Valley-2 (Milestone 3 of Task 6) was transmitted to the NRC one week ahead of schedule. Updated input (incorporated data from a reference supplied by NRC) for the Supplemental Safety Evaluation Report for Millstone-3 and the Draft Safety Evaluation Report for Vogtle-1 and -2 was transmitted to the NRC in October 1984.

### 4. Plans for Next Reporting Period

PNL plans to continue work on preparing the Draft Safety Evaluation Report for South Texas. If the applicants provide responses to the confirmatory and open issues at Millstone-3, Beaver Valley-2 and Vogtle-1 and -2, PNL plans to evaluate those responses. PNL plans to transmit the revised NRC Form 189 if the funding question is resolved.

# FINANCIAL STATUS

1. <u>Total Projected Project Cost, \$</u>	<u>Funds Obligated To Date, \$</u>	Balance of Funds Needed, By Fiscal Year, \$		
		<u>FY-1984</u>	<u>FY-1985</u>	<u>FY-1986</u>
*	80.0K**	0.0K	0.0K	0.0K
2. <u>Total Costs During the Current Time Period and Cumulative to Date</u>				
		<u>Period, \$</u>	<u>Cumulative, \$</u>	
a. Direct Salaries		0.0K	28.5K	
b. Materials and Services		0.0	1.3	
c. ADP Support		0.0	0.0	
d. Subcontracts		0.0	0.0	
e. Travel		0.0	2.3	
f. Indirect Labor Costs		0.0	8.5	
g. Other		0.1	10.2	
h. General and Administrative		<u>0.0</u>	<u>20.5</u>	
	Total	0.1K	71.3K (89%)	
3. <u>Fee Recovery Cost Status Section</u>				
See following ten pages.				

\*Uncertain at this time (depends on whether some deleted tasks are reinstated or new tasks are added).

\*\*\$15K that was authorized initially (NRC Form 173, Order No. 20-83-689) plus \$90K received in Supplement 1 (NRC Form 173, Order No. 20-84-163) less the \$25K deobligated (NRC Form 173, Order No. 20-84-619) in connection with Supplement 2 (NRC Form 173, Order No. 20-84-508).

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Millstone-3	50-423	0.1K	20.5K*

\*Includes its share (\$1.1K) of common costs through September 1984.

FIN: 82544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Washington Nuclear-3	50-508	0.0K	7.3K*

\*Includes its share (\$1.1K) of common costs through April 1984.

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Bellefonte-1 & -2	50-438 & 50-439	0.0K	7.4K*

\*Includes its share (\$1.1K) of common costs through April 1984.



FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Nine Mile Point-2	50-410	0.0K	1.8K*

\*Includes its share (\$1.1K) of common costs through December 1983.

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Hope Creek	50-354	0.0K	2.2K*

\*Includes its share (\$1.1K) of common costs through December 1983.

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Beaver Valley-2	50-412	0.0K	12.2K

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Marble Hill-1 & -2	50-546 & -547	0.0K	1.8K*

\*Includes its share (\$1.1K) of common costs through December 1983.

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Vogtle-1 & -2	50-424 & 50-425	0.0K	14.0K

FIN: 82544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
South Texas-1 & -2	50-498 & 50-499	0.0K	0.9K

FIN: B2544

Title: FSAR (Section 4.2, Fuel) Reviews

Period: November 1984

<u>Facility</u>	<u>Docket No.</u>	<u>Costs, \$</u>	
		<u>Period</u>	<u>Cumulative</u>
Common Costs	50-900	0.0K	10.0K*

\*Includes the \$1.1K shown on each of six attached fee recovery sheets (Millstone-3, Washington Nuclear-3, Bellefonte, Nine Mile Point-2, Hope Creek, and Marble Hill).