

INTERIM REPORT

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OAK RIDGE NATIONAL LABORATORY  
Oak Ridge, Tennessee 37830  
operated by  
UNION CARBIDE CORPORATION  
for the  
DEPARTMENT OF ENERGY

INTERIM REPORT

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OAK RIDGE NATIONAL LABORATORY MONTHLY REPORT TO  
THE DIVISION OF SITE SAFETY AND ENVIRONMENTAL ANALYSIS

July 1978

A. Status of Environmental Reviews

Allens Creek - J. B. Cannon, Project Manager

No significant activity. All revisions to the Draft Supplement were finalized. Information pertaining to alternative sites was transmitted to the Commission.

Blue Hills - J. M. Loar, Project Manager

The PFES was completed and sent to Washington on June 7. The FES will be issued after the OELD review of alternate sites has been completed.

Comanche Peak - J. B. Cannon, Project Manager

Adam Szluha and Johnnie Cannon performed a critical review of the applicant's environmental assessment of an operational chlorine minimization study, which was submitted in support of a CP amendment request. Docketing of the OL-ER will follow the completion of this activity.

Erie Nuclear Plant, Units 1 and 2 - Roy E. Thoma, Project Manager

Laboratory-NRC staff discussions were initiated in an effort to resolve conflicts in the evaluation of impacts on Cranberry Creek resulting from construction of the Erie Nuclear Plant as proposed.

Greene County - R. M. Rush, Project Manager

Joint hearings with the New York State Siting Board continue. One member of the team (R. S. Konkell) attended the hearings on July 19-21. The terrestrial ecologist member of the team (R. M. Reed) visited the site on July 17-18.

NRC Research and Technical  
Assistance Report

Grand Gulf Nuclear Station Units 1 and 2 - R. M. Rush, Project Manager

No significant activity.

Indian Point - R. M. Rush, Project Manager

Work related to the EPA hearings continues to be the major effort of the team members. There were no hearings scheduled for July.

Jamesport Nuclear Power Station Units 1 and 2 - R. M. Rush, Project Manager

No significant activity.

Montague Nuclear Power Station Units 1 and 2 - R. M. Rush, Project Manager

Work continued on the preparation of supplemental testimony regarding socioeconomic impacts.

New England Power Units 1 and 2 - R. M. Rush, Project Manager

Work continued on the preparation of the PDES. Some additional information on the need for power was received from the applicant.

Offshore Power Systems (OPS) Manufacturing License - R. E. Thoma, Project Manager

Hearings resumed on July 10 after an extensive delay caused by the unavailability of the Final Addendum to the Part II of the FES. The Final Addendum was entered in the record on July 11. Hearings have once again been interrupted, now awaiting the issuance of Part III of the FES, which is anticipated to occur in November, 1978.

Shoreham - H. E. Zittel, Project Manager

The staff has been informed that the ASLB has accepted the staff affidavits on ASLB concerns as sufficient to negate the necessity for the staff to appear at hearings.

San Onofre Units 2 and 3 - R. M. Rush, Project Manager

Work continued on the assessment of the thermal discharge.

Sterling - J. B. Cannon, Project Manager

No activity.

South Texas - J. B. Cannon, Project Manager

No significant activity. The site visit is tentatively scheduled for the week of 18 September 1978.

Sundesert - H. E. Zittel, Project Manager

The staff met with the DOI and NRC to review the draft FES. Necessary text changes arising from that meeting are being made.

Virgil C. Summer Nuclear Station - N. E. Hinkle, Project Manager

The formal set of site visit questions were forwarded to the applicant by the Commission on July 25. The task group is expecting to receive the responses during the last week of August. Martin Schweitzer joined the task group with responsibility for socioeconomic concerns and visited the site region on July 24-26.

B. Technical Projects

Cooling Tower Water Consumption - M. E. LaVerne

No activity this month.

Environmental Standard Review Plan - H. E. Zittel

No activity.

Intake Design/Fish Impingement Study - J. M. Loar

No activity this month.

Alternative Screening Devices for Reducing Entrainment/Impingement -  
J. B. Cannon, Principal Investigator

Documentation of the final draft continued. The scheduled completion date is late September.

Timing for Additions to Generating Capacity - R. L. Spore

No substantive activity.

Socioeconomic Impact of Coal Fuel Cycles - B. H. Bronfman

No substantive activity.

C. Support Group Activities

Environmental Fluid Dynamics Group

2-D Transient Far-Field Model for  $\Delta T$  in Rivers from an Arbitrary Source -  
A. J. Witten and E. C. Long

The report "A Two-Dimensional Transient Far-Field Analysis for the Excess Temperature from an Arbitrary Source", ORNL/TM-5578 has been published.

PLUME Model User's Manual - J. B. Cannon

No activity this month.

Analytical Support Work

ORFAD - Cooling Tower Fog and Drift Program - M. E. LaVerne, E. C. Long,  
and M. R. Patterson

The long main program for ORFAD has been split into five programs to facilitate changes to the program and to shorten somewhat its running time. The split version of this program is now operational.

For the Seabrook site cooling towers, the ORFAD program modified to include the droplet breakaway from the plume predicted little difference in the drift deposition from that predicted by the unmodified version of ORFAD. The ORFAD program is being modified further to allow input to the program draft rate data that have a greater number of droplet size categories. This is being done to allow the use of drift rate data measured at the Chalk Point plant as input to the program.

For the New England site cooling towers, drift predictions have been made using the Quonset Point weather data. These predictions look more reasonable than those obtained using the Providence weather data. The onsite weather data has been obtained and much effort has again been required to getting the data on this tape translated to a form useable for ORFAD.

The WNDROS program developed by E. Schlatter (ORNL/CSD/TM-40) has been modified to generate wind roses from the onsite or National Weather Service data tapes.



3-D Transient Far-Field Model for  $\Delta T$  in Rivers from an Arbitrary Source -  
A. J. Witten and E. C. Long

No activity this month.

Statistical Continuum Model of Thermal Discharges - A. J. Witten and  
E. C. Long

Abstracts of papers describing the development work of the stochastic model have been submitted and accepted at two professional society meetings.

Simplified 2-D Tidal Model - A. J. Witten and E. C. Long

No activity this month.

Computer Program Cataloging - E. C. Long

No activity this month.

Status of the Active Environmental Impact Statements

The attached figures show the present and projected status of the active NRC Environmental Impact Statements assigned to the group.

D. Budget

Project costs are reported in the attached tables.

E. Overdue Action of SSEA Regarding Laboratory Requests

None

F. Remarks

None

*H. E. Zittel*

H. E. Zittel, Manager  
Environmental Statements Project

ENVIRONMENTAL STATEMENTS PROJECT  
COST AND MANPOWER DEVOTED TO ORNL  
WORK FOR THE DIVISION OF SITE SAFETY AND ENVIRONMENTAL ANALYSIS

	July 1978			FY 1978			Prior Years	
	Administrative		Project	Administrative		Project	Cost	MYS
	MMS	MMS	Cost	MYS	MYS	Cost		
Indian Point	1.60	.18	9,990	2.67	.17	191,028	213,388	4.48
PMNP-Generic	1.19	.17	8,693	.38	.04	42,763	501,224	8.92
Seabrook	.43	.07	3,698	1.54	.02	25,009	271,071	4.57
Atlantic 1, 2	---	---	7	.14	.01	10,546	405,655	6.24
Montague Plant	.29	.04	2,014	.79	.07	72,742	261,746	4.44
Blue Hills	---	---	(113)	.41	.04	41,992	182,743	2.20
Greene Co.	4.42	.51	26,608	2.59	.19	209,589	436,446	4.77
Technical Projects								
Multiple Use Cooling Reservoir	---	---	(5)	---	---	104	36,765	.57
Power Plant Intake Design	---	---	7	.10	.01	11,109	56,427	.74
Standard Review Plan	---	---	(1)	.02	.005	5,184	150,930	1.67
Alternative Screening Devices	1.8	---	12,323	1.09	---	78,693	---	---
Cooling Water Consumption	---	---	---	.01	---	1,029	---	---
Economic Research Time	---	---	---	---	---	548	---	---
Socioeconomic Impacts	---	---	---	---	---	28	---	---
Shoreham	---	---	14	.11	.01	11,733	191,511	2.91
Fort Calhoun	---	---	(91)	.20	.03	35,674	328,817	3.38
Sundesert	.51	.13	6,565	2.04	.18	205,914	174,639	2.10
Erie 1, 2	.72	.08	3,975	1.44	.13	143,073	222,867	2.64
New England 1, 2	4.18	.50	26,417	2.75	.22	246,414	127,166	1.44
San Onofre 2, 3	1.19	1.12	10,853	1.06	.10	111,053	92,184	1.17
Virgil C. Summer	1.32	.14	7,516	.45	.03	36,448	26,823	.28
Shearon Harris	---	---	(35)	.01	.001	1,510	---	---
Allens Creek	.68	.06	3,718	1.12	.11	128,243	34,507	.44
Comanche Peak	.89	.10	5,232	.25	.02	20,229	---	---
Grand Gulf	---	---	---	.06	.005	5,269	---	---
South Texas	.22	.03	1,351	.06	.005	5,978	---	---
Indian Point 3	---	---	---	---	---	---	---	---
Surry 3, 4	---	---	---	---	---	---	108,094	11.06
Douglas Point 1, 2	---	---	---	---	---	---	133,907	2.44
Cherokee	---	---	---	---	---	---	174,172	3.33
	---	---	---	---	---	219	142,617	2.58





Offshore-Generic	---	---	----	---	---	----	62,306	1.29
Interagency Study	---	---	----	---	---	----	67,946	1.57
Hope Creek 1, 2	---	---	----	---	---	----	44,417	1.10
Alternate Site Evaluations	---	---	----	---	---	----	15,599	.22
Striped Bass	---	---	----	---	---	----	7,931	---
Hartsville	---	---	----	---	---	----	1,414	.01
User's Manual Tidal Transient								
2-D Far-Field	---	---	----	---	---	----	139	---
User's Manual Tidal Transient								
1-D Estuaries & Rivers	---	---	----	---	---	----	6	---
Barnwell	---	---	----	---	---	----	---	---
Marble Hill - Assistance	---	---	----	---	---	----	1,336	---
General Support	---	---	----	---	---	----	1,951	---
Contract Costs	---	---	----	---	---	----	67,846	---
Administration	---	(2.2)	(12,932)	---	(1.4)	(159,820)	(1,067,764)	(14.63)
Problem Groups	---	---	----	---	---	----	(702,338)	(13.70)
Allocated Miscellaneous	---	---	----	---	---	----	293,796	4.25
Total	17.64	(2.2)	115,433	18.26		1,565,372	9,335,749	146.96

MONTHLY REPORT BUDGET SUMMARY

Case Work Active	Total to Date Prior Years	Total for Fiscal Year	% Complete	Cost for Project Completion (Estimate)
Allens Creek	\$ 34,507	\$ 128,243	99%	\$ (62,710)*
Indian Point	821,482	191,028	99	(248,900)*
PMNP-Generic	501,224	42,746	99	1,000
Atlantic 1, 2	405,655	10,546	88	49,000
Montague	261,746	72,742	99	(14,536)*
Blue Hills	482,745	41,992	99	(48,038)*
Shoreham	191,511	11,733	99	(2,853)*
Fort Calhoun	328,817	55,674	99	(415,656)*
Greene Co.	436,446	209,589	99	(430,578)*
Erie 1, 2	222,867	143,073	99	(146,940)*
New England	127,166	246,414	99	(123,580)*
Sundesert	174,639	205,914	99	(155,505)*
Technical Projects				
Multiple Projects	36,765	104	99	3,000
Power Plant Intake Design	51,317	11,109	99	(17,029)*
Alternative Screening Devices	----	78,693	79	22,000
Cooling Water Consumption	----	1,029	3	33,971
Economic Research Time	----	548		20,000
Socioeconomic Impacts	----	28	1	30,000
Standard Review Plan	150,930	5,184	99	(13,803)*
San Onofre 2, 3 (OL)	92,184	111,053	99	(3,237)*
Virgil C. Summer	26,824	36,448	63	37,000
Cranache Peak	----	20,229	15	110,000
South Texas	----	5,978	5	118,000
Grand Gulf	----	5,269	4	119,000

\*Overrun of original estimates.

# SUMMARY OF ACTIVE ENVIRONMENTAL STATISTICS (CONTINUED)

LEE

NEW ENGLAND

ROBERTSON

SHOREHAM

SUNNYSIDE

WILTON

GRAND GULF

GREENE COUNTY

SAN ORONIRE

SUNTER

5.1 5.2

0.7 0.7

2.0

WEEK

36

32

28

24

20

16

12

8

# SUMMARY OF ACTIVE ENVIRONMENTAL STATISTICS (SEE LEGEND)

BALMAIN

OFFSHORE GENERIC

CANNON

ALLENS CREEK

BLUE HILLS

ERIE

FT. CALHOUN

LAVENDER

COMANCHE PEAK

MONTAGUE

SOUTH TEXAS

10 10

10 10

M

A

M

J

J

A

8

12

16

20

14 FK

24

28

32

36



## Legend for Summary of Active Environmental Statements

- 0. Start
- 1.0 Acceptance review completed
- 2.0 Site visit completed
- 3.0 PDES preparation
  - 3.1 Problem group leader review
  - 3.2 Task group leader review
  - 3.3 PDES
- 4.0 DES
- 5.0 FES preparation
  - 5.1 Problem group leader review
  - 5.2 Task group leader review
  - 5.3 FES
- 6.0 Testimony
  - 6.1 Problem group leader review
  - 6.2 Task group leader review
  - 6.3 ASLB hearing
- 7.0 ALAB testimony



Internal Distribution

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- 11.30. H. E. Zittel

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