

INTERIM REPORT

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

THIS DOCUMENT CONTAINS  
POOR QUALITY PAGES

INTERIM REPORT

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

August 1978

A. Status of Environmental Reviews

Allens Creek - J. B. Cannon, Project Manager

No activity. The final supplement to the FES was issued in August 1978.

Blue Hills - J. M. Loar, Task Group Leader

No activity this month. The FES was issued in late July and hearings are pending.

Comanche Peak - J. B. Cannon, Project Manager

Work continued on the environmental assessment of the applicant's proposed chlorine minimization study. J. D. Jackson (EPM) and J. B. Cannon met with the applicant of August 16, 1978 to review deficiencies in the applicant's assessment. Further analyses arising from that meeting are being made.

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

Members of the staff joined NRC staff for further examination of the site and environs. A previously unidentified impoundment on private property adjoining the site was observed. Although the existence of the impoundment offers some opportunity for mitigating reduced flow in Cranberry Creek, releases are controllable at the discretion of the owner. Additional calculations regarding the effects of dewatering operations should permit evaluation of the probability of construction impacts.

NRC Research and Technical  
Assistance Report

Greene Co. - R. M. Rush, Project Manager

Two members of the team (R. S. Konkel and R. M. Rush) met with the applicant and NRC personnel in Bethesda on August 1 to discuss revisions to the applicant's need for power analysis. Three members of the team (R. C. Baker, R. B. Braid, and K. K. Campbell) went to Bethesda on August 22 to participate in a deposition obtained from Lehigh Cement Co. personnel by the NRC attorney. NRC personnel from EP and OELD visited ORNL on August 3 and 4 to discuss scheduling and the preparation of the FES and supplemental testimony.

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

A draft letter to the applicant requesting additional information was reviewed by the team members.

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 August. Several new documents were received from the applicant during this month.

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 on the PDES was essentially completed except for the need for power section. The PDES without the need for power section is scheduled to be sent to NRC on September 14 and the need for power section is scheduled to be sent on October 12.

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

Continuation of hearings is delayed until November (see July report).

Shoreham - H. E. Zittel, Project Manager

No further activity by the staff is anticipated.



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

The thermal plume analysis was completed and work on the revision of the section on aquatic impacts is underway. The completed PDES is scheduled to be sent to the NRC on October 2.

Sterling - J. B. Cannon, Project Manager

No activity.

South Texas - J. B. Cannon, Project Manager

No significant activity. Preparation is underway for a site visit for the week of September 25, 1978.

Sundesert - The text changes resulting from DOI and NRC review of the draft FES have been made and the staff is awaiting the NRC decision as to what form of FES will be issued.

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

The applicant's response to the formal set of site visit questions was received in the last week of the month. A number of responses related to the description of terrestrial biota and to impacts of the Summer station on aquatic biota were not responsive to the needs of the staff. The resulting increased effort by staff members in development of independent environmental assessments will lead to some delay in completion of the PDES.

The EPM has agreed to provide the Chapter 2, 4, and 5 input for historical and archeological factors.

Preparation of the PDES was initiated during the month.

Perkins - H. E. Zittel, Project Manager

The staff has been informed that the alternate site analysis must be re-evaluated in view of recent ASLB decisions.

## B. Technical Projects

### Cooling Tower Water Consumption - M. E. LaVerne

No activity this month.

### Environmental Standard Review Plan - H. E. Zittel

Staff members met with the NRC and other participating laboratories to review final drafts of Sections 4 & 5 ESRPs.

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

No activity this month.

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

Documentation of the final draft (ORNL/TM-6472) continued. The scheduled completion date is mid-October.

### 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

### 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

Modification of ORFAD to permit use of drift rate data that has a greater number of droplet size categories has been completed. In this modification the drift classes are defined by the droplet diameter size at each boundary of the class rather than by the mean droplet diameter. The ORFAD program has been modified further to predict drift deposition for any arbitrary time period; various seasons for example.

Work has started using the modified ORFAD program to predict drift deposition rates from cooling towers located at the Seabrook site. This is being done for both natural draft and circular mechanical draft cooling towers during the various seasons of the year. Wind roses were generated for the Seabrook on-site data and they appear to be reasonable. Wind velocity power law coefficients (for logarithmic wind profiles) were generated from the on-site data, and they are in reasonable agreement with the values used in the ORFAD program.

Weather tapes to be used in the Seabrook alternate site study have been obtained. These include both NOAA weather tapes and other on-site weather tapes. Work has started generating wind roses from these tapes and putting them in a format compatible with ORFAD.

#### 3-D Transient Fair-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 Discharge - A. J. Witten and E. C. Long

Work on papers describing the development work on the stochastic model has continued.

#### 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

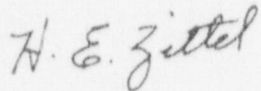
Project costs are reported in the attached tables.

#### E. Overdue Action of SSEA Regarding Laboratory Requests

None

#### F. Remarks

None



H. E. Zittel, Manager  
Environmental Statements Project

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

	August 1978			FY 1978			Prior Years	
	Administrative MMs	MMs	Project Cost	Administrative MYs	MYs	Project Cost	Cost	MYs
Indian Point	1.24	.03	7,753	2.78	.17	198,781	213,388	4.48
PMNP-Generic	.60	.02	3,444	.43	.04	46,207	501,224	8.92
Seabrook	.14	---	760	1.52	.02	22,071	271,071	4.57
Atlantic 1, 2	---	---	2	.14	.01	10,548	405,655	6.24
Montague	.19	---	874	.80	.06	73,616	261,746	4.44
Blue Hills	.10	---	(948)	.41	.04	42,940	182,743	2.20
Greene Co.	4.39	.12	27,168	2.96	.20	235,387	436,446	4.77
Technical Projects								
Multiple Use Cooling Reservoir	---	---	(5)	---	---	109	36,765	.57
Power Plant Intake Design	---	---	14	.10	.01	11,123	56,427	.74
Standard Review Plan	.21	.01	2,833	.03	.007	8,017	150,930	1.67
Alternative Screening Devices	2.39	---	15,590	1.30	---	94,283	----	---
Cooling Water Consumption	---	---	----	---	---	1,029	----	---
Economic Research Time	.06	---	301	---	---	849	----	---
Socioeconomic Impacts	---	---	----	---	---	28	----	---
Shoreham	---	---	98	.11	.01	11,831	191,511	2.91
Fort Calhoun	---	---	(205)	.20	.03	35,879	328,817	3.38
Sundesert	.19	.05	12,178	2.05	.18	218,092	174,639	2.10
Erie 1, 2	.57	.02	4,725	1.49	.12	147,798	222,867	2.64
New England 1, 2	2.52	.08	19,206	2.96	.22	265,620	127,166	1.44
San Onofre 2, 3	.97	.04	10,115	1.14	.10	121,168	92,184	1.17
Virgil C. Summer	1.28	.03	7,516	.56	.04	43,964	26,823	.28
Shearon Harris	---	---	(35)	.01	.001	1,510	----	---
Allens Creek	---	.01	1,755	1.12	.11	129,998	34,507	.44
Comanche Peak	.46	.01	3,077	.28	.02	23,306	----	---
Grand Gulf	.07	---	430	.06	.005	5,699	----	---
South Texas	.08	---	504	.06	.005	6,482	----	---
Indian Point 3	---	---	----	---	---	----	608,094	11.06
ESP Seabrook	1.09	.05	10,972	.12	.01	14,670	----	---
Surry 3, 4	---	---	----	---	---	----	133,907	2.44
Douglas Point 1, 2	---	---	----	---	---	----	174,172	3.33
Cherokee	---	---	----	---	---	219	142,617	2.58



Tyrone Energy Park 1, 2	---	---	----	.01	---	724	328,905	4.00
Jamesport	---	---	----	---	---	----	345,326	5.57
North Coast	---	---	----	---	---	4	197,815	1.92
Sterling	---	---	----	.07	.002	2,619	219,866	4.33
Construction Cost Nomograms	---	---	----	---	---	----	30,193	.37
North Anna	---	---	----	---	---	----	56,401	1.29
Surry 1, 2	---	---	----	---	---	----	20,434	.18
Diablo Canyon	---	---	----	---	---	78	7,802	.06
Black Fox	---	---	----	---	---	124	9,252	.08
Cost/Benefit Section	---	---	----	---	---	----	3,553	.03
PMNP-Manufacturing	---	---	----	---	---	----	1,212	.02
Perry 1, 2	---	---	----	---	---	----	141,440	3.04
Indian Point 1	---	---	----	---	---	----	38,596	.87
Summit 2, 3	---	---	----	---	---	----	160,380	3.58
Comanche 1, 2	---	---	----	---	---	----	96,831	2.27
River Bend	---	---	----	---	---	----	111,330	2.36
Fulton 1, 2	---	---	----	---	---	----	72,895	1.54
Offshore Survey Report	---	---	----	---	---	----	6,053	.40
Allens Creek 1, 2	---	---	----	---	---	----	89,907	1.59
Quanticassee 1, 2	---	---	----	---	---	----	31,988	.62
Sequoyah Nuclear Plant	---	---	----	---	---	----	3,795	.06
Clinch River (LMFBR)	---	---	----	---	---	----	4,835	.11
Perkins Nuclear Station	---	---	----	---	---	----	131,330	2.40
Wolf Creek Project	---	---	----	---	---	----	263,680	3.90
South Texas Project	---	---	----	---	---	----	110,350	2.30
Indian Point	---	---	----	---	---	----	---	---
Palisades	---	---	----	---	---	----	2,996	.07
Mendocino	---	---	----	---	---	----	138,546	3.73
Oconee	---	---	----	---	---	----	4,359	.08
McGuire	---	---	----	---	---	----	35,996	.87
Hatch 1, 2	---	---	----	---	---	----	2,815	.07
Arkansas	---	---	----	---	---	----	62,899	1.78
Farley	---	---	----	---	---	----	5,209	.12
Peach Bottom	---	---	----	---	---	----	47,135	1.20
Limerick 1, 2	---	---	----	---	---	----	100,222	2.48
Newbold Island	---	---	----	---	---	----	110,673	3.12
Vermont Yankee	---	---	----	---	---	----	15,002	.38
St. Rosalie	---	---	----	---	---	----	1,256	.03
Ginna	---	---	----	---	---	----	155,575	3.84

Vogtle	---	---	----	---	---	----	116,550	2.98
San Onofre 1	---	---	----	---	---	----	158,920	3.79
Catawba	---	---	----	---	---	----	111,355	3.18
Offshore-Manufacturing	---	---	----	---	---	----	270,027	6.53
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	---	---	----	---	---	----	41,951	---
Contract Costs	---	---	----	---	---	----	67,846	---
Administration	---	(0.5)	7,126	---	(1.4)	(166,946)	(1,067,764)	(14.63)
Problem Groups	---	---	----	---	---	----	(702,338)	(13.70)
Allocated Miscellaneous	---	---	----	---	---	----	293,796	4.25
Total	14.10	(.5)	114,582	19.41		1,679,954	9,355,749	146.96

# MONTHLY REPORT BUDGET SUMMARY

<u>Case Work Active</u>	<u>Total to Date Prior Years</u>	<u>Total for Fiscal Year</u>	<u>% Complete</u>	<u>Cost for Project Completion (Estimate)</u>
Allens Creek	\$ 34,507	\$ 129,998	99%	\$ (64,465)*
Indian Point	821,482	198,781	99	(256,653)*
PMNP-Generic	501,224	46,207	99	4,000
Atlantic 1, 2	405,655	10,548	88	49,000
Montague	261,746	73,616	99	(15,410)*
Blue Hills	182,743	42,940	99	(48,986)*
Shoreham	191,511	11,831	99	(2,951)*
Fort Calhoun	328,817	35,879	99	(115,861)*
Greene Co.	436,446	235,387	99	(457,746)*
Erie 1, 2	222,867	147,798	99	(151,665)*
New England	127,166	265,620	99	(142,786)*
Sundesert	174,639	218,092	99	(167,683)*
Technical Projects				
Multiple Projects	36,765	109	99	3,000
Power Plant Intake Design	51,317	11,123	99	(17,043)
Alternative Screening Devices	----	94,283	94	6,000
Cooling Water Consumption	----	1,029	3	33,971
Economic Research Time	----	849		19,000
Socioeconomic Impacts	----	28	1	30,000
Standard Review Plan	150,930	8,017	99	(16,636)*
San Onofre 2, 3 (OL)	92,184	121,168	99	(13,352)*
Virgil C. Summer	26,824	43,964	70	30,000
Comanche Peak	----	23,306	18	107,000
South Texas	----	6,482	5	118,000
Grand Gulf	----	5,699	5	119,000
Seabrook ESP	----	14,670	29	35,000

\*Overrun of original estimates



# SUMMARY OF ACTIVE ENVIRONMENTAL STATEMENTS (SEE LEGEND)

CANNON

ALLENS CREEK

BLUE HILLS

ERIE

FT. CALHOUN

LAVERNE

COMMINGE PEAK

LEE

NEW ENGLAND

3.3

3.1

12 16 20 24 28 32 36 40  
A M J A S  
WEEK

# SUMMARY OF ACTIVE ENVIRONMENTAL STATISTICS (CONTINUED)

ROBERTSON

SCREHAM

SUNDESERT

WITTEN

GRAND GULF

GREENE COUNTY

SAN ONOFRE

SUMNER

YEH

SOUTH TEXAS

5/ 5/2

0. 1.0

2.0

4. 1.0

2.0

40

36

32

28

24

20

16

12

WEEK

## 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 ASLB testimony



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