



**BOSTON EDISON**

25 Braintree Hill Office Park  
Braintree, Massachusetts 02184

**E. J. Wagner**  
Vice President  
Nuclear Engineering

April 17, 1991

BEC0 5.91-034

NPDES Program Operations Section (WCP)  
Environmental Protection Agency  
P. O. Box 8127  
Boston, MA 02114

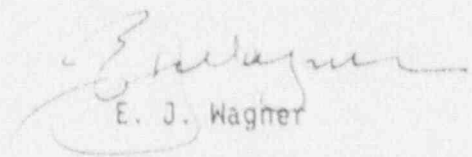
Massachusetts Division of Water Pollution Control  
Southeastern Regional Office  
P.O. Box 537  
North Pembroke, MA 02358

DISCHARGE MONITORING REPORT

Dear Sirs:

Enclosed is the Discharge Monitoring Report for Pilgrim Nuclear Power Station (PNPS), NPDES Permit Number MA0003557 (Federal) and Number 359 (State).

The period covered by this report is March 1991.

  
E. J. Wagner

RDA/rec/4233

Attachments: 1. Summary  
2. Discharge Monitoring Report

cc: ✓ U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

U. S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Senior NRC Resident Inspector  
Pilgrim Nuclear Power Station

9104230379 910331  
PDR ADOCK 05000293  
R PDR

JE48

## SUMMARY

PILGRIM I DISCHARGE MONITORING REPORT

In accordance with the Federal Clean Water Act, as amended (33USC 1251 et seq: the "CWA"), and the Massachusetts Clean Water Act, as amended (M.G.L.; Chap. 21, 26-53), regarding effluent limitations, monitoring requirements and other conditions set forth in the Pilgrim NPDES Permit (Federal Permit Number MA0003557, and State Permit Number 359), parts I and II, the following information is submitted for the period March 1991.

I. Discharge Points Covered in this Report

<u>Discharge Point</u>	<u>Discharge Identification</u>
001	Condenser Cooling Water
002	Thermal Backwash for Biofouling Control
003	Intake Screen Wash
010	Service Cooling Water
011	Makeup Water and Demineralizer Waste Discharge

II. Summary and Notes of Discharge Report

- A. The flow at points 001 and 010 are calculated from system pump capacity and are equal to the total for all pumps in each system running at full capacity for a 24-hour period. The flow at point 011 is measured by noting sump levels before and after discharge. Flow at point 002 is a conservative figure obtained by calculating flow if backwashing took place for 24 hours. Flow at point 003 is calculated from system pump capacity and mean operating time.
- B. The temperatures at points 001 and 002 are measured by resistance temperature detectors (RTD's).
- C. Periodically, total residual chlorine (TRC) concentration in the service cooling water (010) exceeds Permit requirements (0.50 ppm daily average TRC and 1.00 ppm daily maximum TRC) prior to mixing with any other stream, primarily because of the number of service water pumps in operation. Chlorine injection levels are lowered as a corrective measure. The dilution provided by the PNPS circulating water flow keeps total residual chlorine concentrations discharged to Cape Cod Bay below the NPDES Permit limit of 0.1 ppm.

- D. Intake traveling water screens were operated with dechlorination pumps operating at all times.
- E. Sawdust was applied to seek and seal PNPS condenser leaks on 3/6, 160 pounds; 3/16, 80 pounds.
- F. Thirty day average, intake screen wash (003) flow periodically exceeds Permit levels (0.336 MGD) because of continuous screen washing required for removal of heavy debris loads, caused by coastal storms. A letter requesting an increase in this Permit limit from 0.336 MGD to 2.02 MGD was sent to T. E. Landry of the USEPA Compliance Branch (BEC0 Letter 5.84.048) on December 12, 1984. The increase was verbally approved by the USEPA and will be incorporated in the next renewal issuance of the NPDES permit.

ATTACHMENT 2 TO BECO LETTER 5.91-034

DISCHARGE MONITORING REPORT

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME BOSTON ED #1 PILGRIM PLANT

ADDRESS ROCKY HILL ROAD

RED #1

PLYMOUTH

MA 02360

FACILITY

LOCATION

ATTN: E.S. KRAFT, PLANT MANAGER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

MA0003557

PERMIT NUMBER

001 1

DISCHARGE NUMBER

MAJOR (SUBR S)  
F - FINAL

COOLING WATERS

Form Approved.  
OMB No. 2040-0004.  
Approval expires 6-30-91.

MONITORING PERIOD

FROM YEAR 91 MO 03 DAY 01 TO YEAR 91 MO 03 DAY 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

\*\*\* NO DISCHARGE \*\*\*

NOTE: Read instructions before completing this form.

ATTN: E.S. KRAFT, PLANT MANAGER											
PARAMETER (32-37)	<div></div>	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0	SAMPLE MEASUREMENT	*****	*****	( )	*****	*****	71.7	( 15 ) OF	0	99/99	SPRC
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	*** ****	*****	*****	102 INST MX	DEG.F			CONTINUED UOUS
OXIDANTS, TOTAL RESIDUAL 34044 1 0 0	SAMPLE MEASUREMENT	*****	*****	( )	*****	*****	0.05	( 10 ) MG/L	0	01/06	G2
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	*** ****	*****	*****	0.1 DAILY MX	MG/L			WHEN GRAB-2 DISCH
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	423.4	446.4	( 03 ) MGD	*****	*****	*****	( )	0	99/99	SPRC
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	447.0 30DA AVG	510.0 DAILY MX	MGD	*****	*****	*****	*** ****			CONTINUED UOUS
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

E.S. KRAFT  
PLANT MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.

W. W. W. for ESK

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE

508 749-7900

AREA  
CODE

NUMBER

DATE

91 APR 12

YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PH SHALL NOT VARY MORE THAN 0.5 PH STANDARD UNITS FROM INTAKE WATER.  
TEMP. SHALL AT NO TIME EXCEED A 32 DEGREE RISE OVER TEMP OF INTAKE WATER.



PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)  
**NAME** BOSTON ED #1 PILGRIM PLANT  
**ADDRESS** ROCKY HILL ROAD  
 BED #1  
 PLYMOUTH MA 02360  
**FACILITY**  
**LOCATION**  
**ATTN:** E.S. KRAFT, PLANT MANAGER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
**DISCHARGE MONITORING REPORT (DMR)**  
 (2-16) (17-19)  
**MA0003557** **003 A**  
**PERMIT NUMBER** **DISCHARGE NUMBER**  
**MONITORING PERIOD**  
 FROM YEAR MO DAY TO YEAR MO DAY  
 91 03 01 91 03 31  
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

MAJOR (SUBR S)  
 F - FINAL  
 INTAKE SCREEN WASH  
 Form Approved.  
 OMB No. 2040-0004.  
 Approval expires 6-30-91.

\*\*\* NO DISCHARGE 1-1 \*\*\*  
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.648	2.016	(03) MGD	*****	*****	*****	( )	1*	9/10/91	ES
	PERMIT REQUIREMENT	0.336 30DA AVG	2.02 DAILY MX	MGD	*****	*****	*****	****			DAILY ESTIMA
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  <b>E.S. KRAFT</b> <b>PLANT MANAGER</b>  TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT  <i>E.S. Kraft</i>	TELEPHONE  508 746-7900	DATE  91 Apr 12
			AREA CODE NUMBER	YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

THE TEMPERATURE OF THIS DISCHARGE SHALL AT NO TIME EXCEED THE TEMPERATURE OF THE INTAKE WATER.  
 ALL FISH SHELLFISH AND OTHER ORGANISMS COLLECTED OR TRAPPED ON INTAKE SCREEN SHOULD BE RETURNED TO WATER  
 OF AMBIENT TEMP. SUFFICIENTLY DISTANT FROM INTAKE STRUCTURES TO PREVENT REIMPINGEMENT.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME BOSTON ED #1 PILGRIM PLANT

ADDRESS ROCKY HILL ROAD

RED #1

PLYMOUTH

MA 02360

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

MA0003557

PERMIT NUMBER

010 A

DISCHARGE NUMBER

MAJOR

(SUBR S)

F - FINAL

SERVICE COOLING WATER

Form Approved

OMB No. 2040-0004

Approval expires 6-30-91

MONITORING PERIOD

FROM YEAR 91 MO 03 DAY 01 TO YEAR 91 MO 03 DAY 31  
(20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

\*\*\* NO DISCHARGE \*\*\*

NOTE: Read instructions before completing this form.

ATTN: E.S. KRAFT, PLANT MANAGER

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
OXIDANTS, TOTAL RESIDUAL 34044 1 0 0	SAMPLE MEASUREMENT	*****	*****	( )	*****	0.15	0.26	(19) MG/L	1	91/99 RC
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	****	*****	0.25 30DA AVG	0.5 DAILY MX	MG/L		CONTINUED UOUS
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	6.2	*****	(03) MGD	*****	*****	*****	( )	0	99/99 ES
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	11.7 30DA AVG	*****	MGD	*****	*****	*****	****		CONTINUED UOUS
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

E.S. KRAFT  
PLANT MANAGER

TYPED OR PRINTED

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*E.S. Kraft*

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

508 746-7900 91 MAY 12

AREA  
CODE

NUMBER

YEAR

MO

DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

\*SEE SUMMARY NOTES II.C.

CONTINUOUS CHLORINATION OF SERVICE WATER SYSTEM MAY BE USED FOR MACROINVERTEBRATE CONTROL. FLOW RATE SHALL BE ESTIMATED FROM PUMP CAPACITY CURVES AND OPERATIONAL HOURS.

PERMITTEE NAME/ADDRESS (Include  
Facility Name/Location if different)

NAME BOSTON ED #1 PILGRIM PLANT

ADDRESS ROCKY HILL ROAD

RED #1

PLYMOUTH

MA 02360

FACILITY

LOCATION

ATTN: E.S. KRAFT, PLANT MANAGER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

(2-16)

(17-19)

MA0003557

PERMIT NUMBER

011 A

DISCHARGE NUMBER

MONITORING PERIOD

FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	<u>91</u>	<u>03</u>	<u>01</u>		<u>91</u>	<u>03</u>	<u>31</u>
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR  
(SUBR 3)  
F - FINAL

Form Approved.  
OMB No. 2040-0004.  
Approval expires 8-30-91.

MAKE UP WATER AND DEMINERALIZE

\*\*\* NO DISCHARGE ☒ \*\*\*

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)			UNITS (54-61)	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				
PH	SAMPLE MEASUREMENT	*****	*****	( )	6.2	*****	6.6	( 12 ) SU	0	01/BA	GR
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	***	6.1 MINIMUM	*****	8.4 MAXIMUM	SU		ONCE/ GRAB BATCH	
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	*****	*****	( )	*****	1.8	3.3	( 19 ) MG/L	0	01/BA	GR
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	***	*****	30 30DA AVG	100 DAILY MX	MG/L		ONCE/ GRAB BATCH	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.0018	0.0125	( 03 ) MGD	*****	*****	*****	( )	0	WH/DS	ES
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	0.015 30DA AVG	0.06 DAILY MX	MGD	*****	*****	*****	***		WHEN ESTIMA DISCHG	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

E.S. KRAFT  
PLANT MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED  
AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED  
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OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION  
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NIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING  
THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND  
33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000  
and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE  
OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

508 746-7900

91 Apr 12

AREA  
CODE

NUMBER

YEAR

MO

DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

FORMERLY DESIGNATED DISCHARGE 001B. SAMPLES TAKEN IN COMPLIANCE WITH THE MONITORING REQUIREMENTS SPECIFIED  
ABOVE SHALL BE TAKEN AT A POINT PRIOR TO MIXING WITH ANY OTHER STREAM.