



BOSTON EDISON
 25 Braintree Hill Office Park
 Braintree, Massachusetts 02184

E. J. Wagner
 Vice President
 Nuclear Engineering

BECO 5.91-016

NPDES Program Operations Section (WCP-2109)
 Environmental Protection Agency
 P. O. Box 8127
 Boston, MA 02114

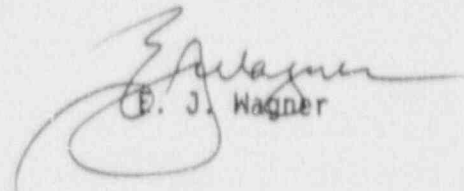
Massachusetts Division of Water Pollution Control
 Lakeville Hospital
 Lakeville, MA 02347

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 January 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

9102250349 910131
 PDR ADOCK 05000293
 R PDR

IEAS
 11

ATTACHMENT 1 TO BECO LETTER 5.91-016

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 January 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. No quantities of sawdust were applied to seek and seal PNPS condenser leaks.
- F. As in the past, the PNPS Plant Manager (presently Mr. E. S. Kraft) is designated as the authorized agent to sign PNPS Discharge Monitoring Report Forms for Boston Edison Company.

ATTACHMENT 2 TO BECO LETTER 5.91- 016

DISCHARGE MONITORING REPORT

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME BOSTON ED #1 PILGRIM PLANT
ADDRESS ROCKY HILL ROAD
RFD #1
PLYMOUTH MA 02360

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

(2-16) **MA0003557** (17-19) **001 1**
 PERMIT NUMBER DISCHARGE NUMBER

F - FINAL Form Approved.
COOLING WATER DMB No. 2040-0004.
 Approval expires 6-30-91.

FACILITY LOCATION
ATTN: ROY ANDERSON, PLANT MANAGER

MONITORING PERIOD
 FROM YEAR 91 MO 01 DAY 01 TO YEAR 91 MO 01 DAY 31
 (10-31) (12-31) (24-25) (26-27) (28-29) (30-31)

MAJOR (SUBR S) NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (54-57)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-67)	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	*****	*****		56.9	63.0	67.9		0	99/99	CN
EFFLUENT GROSS VALUE FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	PERMIT REQUIREMENT	*****	*****	****	REPORT	REPORT	102 INST RE	DEG. F		CONTIN	CONTIN
EFFLUENT GROSS VALUE CHLORINE, TOTAL RESIDUAL 50060 1 0 0	SAMPLE MEASUREMENT	446.0	446.4		*****	*****	*****		0	99/99	CN
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	447.0	510.0	MGD	*****	*****	*****	****		CONTIN	CONTIN
	SAMPLE MEASUREMENT	30DA AVG	DAILY RE		0.00	0.01	0.08		0	01/DS	82
	PERMIT REQUIREMENT	*****	*****	****	REPORT	REPORT	.1 DAILY RE	MG/L		ONCE/	GRAB-2
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: **E. S. KRAFT PLANT MANAGER**
 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: *E. S. Kraft*
 TELEPHONE: 508 746-7900
 DATE: 91 02 12

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
RFD #1
PLIMOUTH MA 02360
 FACILITY _____
 LOCATION _____
 ATTN: ROY ANDERSON, PLANT MANAGER

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

MA0003557 (2-16) PERMIT NUMBER
 002 1 (17-19) DISCHARGE NUMBER

F - FINAL CONDENSER BACKWASH
 Form Approved. EPA Form No. 2040-0004.
 Approval expires 6-30-91.

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

MAJOR (SUBR 5)
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT	(c) Card Only QUANTITY OR LOADING (46-53)			(d) 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	*****	*****		<i>nonthermal backwash</i>				0	9/99	CN
EFFLUENT GROSS VALUE FLOW, IN CONDUIT OR TANK TREATMENT PLANT 00050 1 0 0	PERMIT REQUIREMENT	*****	*****	****	REPORT DAILY HQ	REPORT	120 DAILY HQ	DEG.F	0	01/05	ES
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	9.3	9.3		*****	*****	*****		0	01/05	ES
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT	255.0 DAILY HQ	MGD	*****	*****	*****	****			ESTINA
	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.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
E.S. Kraft

TELEPHONE NUMBER
508 746-7900
 DATE
91 02 12

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 THE PH SHALL NOT VARY MORE THAN 0.5 STANDARD UNITS FROM THAT OF THE INTAKE WATER. FLOW RATE IS TO BE ESTIMATED AS IF BACKFLUSHING TOOK PLACE FOR 24 CONTINUOUS HOURS. SEE PERMIT PAGE 7 FOR CONDITIONS REGARDING THE FREQUENCY OF DISCHARGE.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
 NAME BOSTON ED #1 PILGRIM PLANT
 ADDRESS ROCKY HILL ROAD
RFD #4
PLYMOUTH MA 02360

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

MA0003557
 PERMIT NUMBER

003 A
 DISCHARGE NUMBER

F - FINAL

INTAKE SCREEN

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

MONITORING PERIOD

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

MAJOR (SUBRS)

NOTE: Read instructions before completing this form.

FACILITY
 LOCATION
 ATTN: ROY ANDERSON, PLANT MANAGER

PARAMETER (32-37)	SAMPLE MEASUREMENT	QUANTITY OR LOADING (3 Card Only) (46-53)			QUALITY OR CONCENTRATION (4 Card Only) (54-61)			NO. EX (62-67)	FREQUENCY OF ANALYSIS (68-69)	SAMPLE TYPE (70-71)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	0.217	0.756			0.0000	0.0000	0.0000			
EFFLUENT GROSS VALUE	0.336 3000 AVG	2.02 DAILY MX	MGD		0.0000	0.0000	0.0000	0000 0000	0	99/99 ES CONTINUED DOGS
	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

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 23 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
E.S. Kraft, f

TELEPHONE
508 746-7900
 AREA CODE NUMBER
 DATE
91 02 12
 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
 IF A FISH OR SHELLFISH IS SUFFICIENTLY DISTURBED TO PREVENT REIMPRISONMENT.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
 NAME BOSTON ED #1 PILGRIM PLANT
 ADDRESS ROCKY HILL ROAD
RFD #1
PLYMOUTH MA 02360

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

HA0003557
 PERMIT NUMBER

010 A
 DISCHARGE NUMBER

F - FINAL Form Approved
 SERVICE COOLING WATER NUMBER 0040-0004
 Approval expires 6-30-91.

FACILITY _____
 LOCATION _____
 ATTN: ROY ANDERSON, PLANT MANAGER

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

MAJOR (SUBR S) _____
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT	QUANTITY OR LOADING (3 Card Only) (46-53)			QUALITY OR CONCENTRATION (4 Card Only) (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	5.0	7.2			*****	*****	*****		0	99/99	DA
EFFLUENT GROSS VALUE	11.7	REPORT		MGD	*****	*****	*****	****		CONTINUOUS	DA
CHLORINE, TOTAL RESIDUAL 50060 1 0 0	0.00	0.19	0.48						16	99/99	DA
EFFLUENT GROSS VALUE	*****	*****	****		*****	*****	*****	****		CONTINUOUS	DA

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 3 years.)

E.S. Kraft, Jr.
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE 508 746-7500
 DATE 91 02 12
 AREA CODE NUM. ER YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
CONTINUOUS CHLORINATION OF SERVICE WATER SYSTEM MAY BE USED FOR MACROINVERTEBRATE CONTROL. FLOW RATE SHALL BE ESTIMATED FROM PUMP CAPACITY CURVES AND OPERATIONAL HOURS.

MA0003557
 PERMIT NUMBER
 011 A
 DISCHARGE NUMBER

YEAR 91 DAY 01 TO YEAR 91 DAY 31
 (25-31) (22-25) (24-25) (26-31)
 MONITORING PERIOD

PERMIT NAME/ADDRESS (Include Facility Name/Location if different)
 SAME BOSTON ED #1 PILGRIM PLANT
 ADDRESS ROCKY HILL ROAD
 RFD #1
 PLYMOUTH MA 02360
 FACILITY
 LOCATION
 ATTN: ROY ANDERSON, PLANT MANAGER

MAJOR (SUBR S)
 NOTE: Read instructions before completing this form.

PARAMETER (52-57)	(3 Card Only) QUANTITY OR LOADING (54-61)		(4 Card Only) QUALITY OR CONCENTRATION (54-63)			NO. OF ANALYSIS (52-68)	FREQUENCY OF ANALYSIS (52-68)	SAMPLE TYPE (69-70)
	AVERAGE (46-51)	MAXIMUM (54-61)	UNITS	MINIMUM (58-63)	AVERAGE (46-51)			
PH	7.0					0	01/DS	GR
00400 EFFLUENT GROSS VALUE					7.4			
SOLIDS, TOTAL SUSPENDED								
00530 EFFLUENT GROSS VALUE	13.0				22.8	0	01/DS	GR
FLOW, IN CONDUIT OR THRU TREATMENT PLANT		0.008						
50050 EFFLUENT GROSS VALUE	0.015	0.013				0	01/DS	GR
	300A AVG DAILY ME	MGD						
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

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 E. S. Kraft, J.

TELEPHONE NUMBER
 508 746-7700

DATE
 91 02 12

TYPED OR PRINTED

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. SEE PG 11 OF PERMIT FOR BIOLOGICAL MONITORING REQUIREMENTS

FORM 3320 (Rev. 8-88) Previous editions may be used.

(REPLACES EPA FORM 7-80 WHICH MAY NOT BE USED.) 00429/910122-1055

PAGE 1 OF 1