



BOSTON EDISON

25 Braintree Hill Office Park
Braintree, Massachusetts 02194

E. J. Wagner
Vice President
Nuclear Engineering

August 14, 1991
BEC0 5.91- 077

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

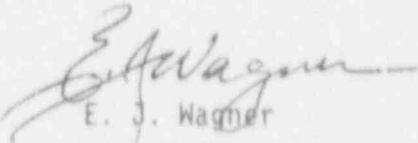
Massachusetts Division of Water Pollution Control
Lakeville Hospital
Lakeville, MA 02346

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 July 1991.


E. J. Wagner

RDA/cab/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 1
475 Allendale Road
King of Prussia, PA 19406

Senior NRC Resident Inspector
Pilgrim Nuclear Power Station

100133

9108190251 910731
PDR ADCK 05000293
R PDR

IFAB
11

ATTACHMENT 1 TO BECO LETTER 5.91- 077

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 July 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
004, 005, 006, and 007	Yard Drains (April and September)
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 sawdust was applied to seek and seal PNPS condenser leaks.
- F. The following boron and sodium nitrite discharges (ppm) occurred in July 1991 from discharge point #001. All discharges were below NPDES Permit limits prior to entering Cape Cod Bay.

<u>Date</u> <u>Discharged</u>	<u>Gallons</u> <u>Discharged</u>	<u>Concentration</u> <u>Before Discharge</u>	<u>Concentration</u> <u>Discharged</u>
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Boron

7/10/91	7,682	5.6	0.007
7/22/91	11,022	1.7	0.002

Sodium Nitrite

7/10/91	7,682	120.0	0.155
7/22/91	11,022	20.0	0.03

- G. From July 22 - 25, 1991 a total of 2,157 juvenile Atlantic herring were collected from Pilgrim Station intake traveling water screens A & B. Collection time was 41.25 hours, giving an impingement rate (fish/hour) of 52.29. If the rate is expanded to the entire 80 hour period during which the samplings occurred, then approximately 4,183 Atlantic herring were impinged. The fish averaged about 80-85 mm in total length and 2 grams in weight, and therefore were young-of-the-year.

As required by the NPDES Permit, the U.S. EPA and Mass. Div. of Water Pollution Control (DWPC) were informed of this high impingement the morning of July 23, 1991 (BECO Telecon #4.91.022). The Mass. Div. of Marine Fisheries (DMF) was also notified. As a mitigative measure, during the height of the impingement incident on July 22 and 23, the Control Room was requested to and ran the traveling water screens continuously to improve fish survival probability. The reasons for the large number of Atlantic herring being impinged are unknown but could involve pursuit by predators such as bluefish; adverse water quality conditions caused by solar radiation, etc.; or simply a strong year class making more individuals available.

ATTACHMENT 2 TO BECO LETTER 5.91-077

DISCHARGE MONITORING REPORT

NAME BOSTON ED #1 PILGRIM PLANT
ADDRESS ROCKY HILL ROAD
RFD #1
PLYMOUTH MA 02360
FACILITY
LOCATION

MA0003557
PERMIT NUMBER

001 1
DISCHARGE NUMBER

MAJOR Form Approved.
(SUBR S) OMB No. 2040-0004.
F - FINAL Approval expires 6-30-91.
CONDENSER COOLING WATER

MONITORING PERIOD							
FROM				TO			
YEAR	MO	DAY		YEAR	MO	DAY	
91	07	01		91	07	31	
(12-21)	(12-23)	(12-25)		(12-25)	(12-29)	(12-31)	

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

ATTN: E.S. KRAFT, PLANT MANAGER

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (45-53)			(4 Card Only) QUALITY OR CONCENTRATION (46-53)			NO. EX-109 (52-53)	FREQUENCY OF ANALYSIS (54-55)	SAMPLE TYPE (56-57)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0	SAMPLE MEASUREMENT	*****	*****	()	*****	*****	70.6	(15)	OF	99/99 RC
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	****	*****	*****	102 DLY MAX	DEG.F		CONTINUED
OXIDANTS, TOTAL RESIDUAL 34044 1 0 0	SAMPLE MEASUREMENT	*****	*****	()	*****	0.02	0.05	(19)	MG/L	01/05 G
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	*****	****	*****	0.1 MNTH AVG	0.1 DLY MAX	MG/L		WHEN GRAB DISCHG
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	160.4	223.2	(03)	*****	*****	*****	()		99/99 ES
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	447.0 MNTH AVG	510.0 DLY MAX	MGD	*****	*****	*****	****		CONTINUED
TEMP. DIFF. BETWEEN	SAMPLE MEASUREMENT	*****	*****	()	*****	*****	6.6	(15)	OF	99/99 CA
61576 1 0 0	PERMIT REQUIREMENT	*****	*****	****	*****	*****	32 DLY MAX	DEG.F		CONTINUED
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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 18 USC § 1333. Penalties under these statutes may include fines up to \$250,000 and/or maximum imprisonment of between 6 months and 5 years.	TELEPHONE		DATE	
<u>E.S. KRAFT</u> <u>PLANT MANAGER</u> TYPED OR PRINTED		508-746-7900		91 08 09	
	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	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. SEE PERMIT PAGE 5 PARAGRAPHS MEN FOR BODOR AND SODIUM NITRATE REPORTING REQUIREMENTS. ATTACH ALL RELATED REPORTS TO THIS FORM. A BARRIER SHALL BE MAINTAINED AT THE THERMAL END OF DISCHARGE CANAL AT ALL TIMES.

中國地圖出版社 (N/A 地址: A233 內政部)
Kuo-Sun's Name/Location (if different)

NAME BOSTON ED #1 PILGRIM PLANT
ADDRESS ROCKY HILL ROAD

MAJOR Form Approved.
(SUBR S) OMB No. 2040-0034.
F - FINAL Approval expires 6-30-91.
INTAKE SCREEN WASH

— 650 —

MA 02360

MONITORING PERIOD

FACILITY

LOCATION

ATTN- F. C. KRAFT, PLANT MANAGER

MONITORING PERIOD

YEAR	MO	DAY	YEAR	MO	DAY
91	07	01	91	07	31

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

[illegible]

TYPED OR PRINTED _____
 COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all comments here) _____
 and in material on "Summary of Offense" _____

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all other comments here)	PAGE	OF
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 SUBSISTENTLY DISINTEGRATE INTAKE STRUCTURES TO PREVENT REIMPEINGEMENT.	1	1

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

NAME BOSTON ED #1 PILGRIM PLANT
 ADDRESS ROCKY HILL ROAD
RFD #1
PLYMOUTH MA 02360

FACILITY
 LOCATION

ATTN: E.S. KRAFT, PLANT MANAGER

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

(2-16) MA0003557 PERMIT NUMBER
 (7-19) 010 A DISCHARGE NUMBER

MAJOR Form Approved.
 (SUBR S) OMB No. 2040-0004.
 F - FINAL Approval expires 6-30-91.
 PLANT SERVICE COOLING WATER

MONITORING PERIOD
 FROM YEAR 91 MO 07 DAY 01 TO YEAR 91 MO 07 DAY 31
 (20-21) (22-23) (24-25) (26-27) (28-29) (30-31)

*** 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 (54-61)			NO. EX (52-53)	FREQUENCY OF ANALYSIS (54-55)	SAMPLE TYPE (59-60)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
OXIDANTS, TOTAL RESIDUAL 34044 1 0 0	SAMPLE MEASUREMENT	*****	*****	()	*****	0.11	0.32	(19)	0	99/99 RC
	PERMIT REQUIREMENT	*****	*****	****	*****	0.5 METH AVG	1.0 DLV MAX	MG/L		CONTINUED UOUS
EFFLUENT GROSS VALUE FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	7.3	*****	(03)	*****	*****	*****	()	0	99/99 ES
	PERMIT REQUIREMENT	19.4 METH AVG	*****	MGD	*****	*****	*****	****		CONTINUED UOUS
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT									
	PERMIT REQUIREMENT									
	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 33 USC § 1319). (Penalties under these statutes may include fines up to \$20,000 and/or maximum imprisonment of between 5 months and 5 years.)

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

TELEPHONE
508 746-7900
 DATE
91 08 09

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.

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

NAME BOSTON ED #1 PILGRIM PLANT
ADDRESS ROCKY HILL ROAD

RFB #1 PLYMOUTH
MA 02360

FACILITY LOCATION

ATTN: E.S. KRAFT, PLANT MANAGER

PARAMETER (32-37)

SOLIDS, TOTAL SUSPENDED
00530 1 0 0
EFFLUENT GROSS VALUE
FLOW, IN CONDUIT OR
THRU TREATMENT PLANT
50050 1 0 0
EFFLUENT GROSS VALUE

(1 Card Only) QUANTITY OR LOADING (46-53)

AVERAGE

(4 Card Only) QUALITY OR CONCENTRATION (34-61)

AVERAGE

MAXIMUM (34-61)

65.4

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

NO. OF ANALYSES (64-68)

1

01/BA GR

ONCE/GRAB

BATCH

0 W/HS ES

WHEN ESTIMA

DISCMB

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR) (17-19)

011 A DEC. AREA NUMBER

MA0003557 PERMIT NUMBER

MONITORING PERIOD

FROM 91 07 01 TO 91 07 31

(4 Card Only) QUANTITY OR CONCENTRATION (46-53)

AVERAGE

MAXIMUM (34-61)

65.4

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

NO. OF ANALYSES (64-68)

1

01/BA GR

ONCE/GRAB

BATCH

0 W/HS ES

WHEN ESTIMA

DISCMB

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

NAME BOSTON ED #1 PILGRIM PLANT
ADDRESS ROCKY HILL ROAD

RFB #1 PLYMOUTH
MA 02360

FACILITY LOCATION

ATTN: E.S. KRAFT, PLANT MANAGER

PARAMETER (32-37)

SOLIDS, TOTAL SUSPENDED
00530 1 0 0
EFFLUENT GROSS VALUE
FLOW, IN CONDUIT OR
THRU TREATMENT PLANT
50050 1 0 0
EFFLUENT GROSS VALUE

(1 Card Only) QUANTITY OR LOADING (46-53)

AVERAGE

(4 Card Only) QUALITY OR CONCENTRATION (46-53)

AVERAGE

MAXIMUM (34-61)

65.4

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

NO. OF ANALYSES (64-68)

1

01/BA GR

ONCE/GRAB

BATCH

0 W/HS ES

WHEN ESTIMA

DISCMB

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

NAME BOSTON ED #1 PILGRIM PLANT
ADDRESS ROCKY HILL ROAD

RFB #1 PLYMOUTH
MA 02360

FACILITY LOCATION

ATTN: E.S. KRAFT, PLANT MANAGER

PARAMETER (32-37)

SOLIDS, TOTAL SUSPENDED
00530 1 0 0
EFFLUENT GROSS VALUE
FLOW, IN CONDUIT OR
THRU TREATMENT PLANT
50050 1 0 0
EFFLUENT GROSS VALUE

(1 Card Only) QUANTITY OR LOADING (46-53)

AVERAGE

(4 Card Only) QUALITY OR CONCENTRATION (46-53)

AVERAGE
