



BOSTON EDISON
 25 Braintree Hill Office Park
 Braintree, Massachusetts 02184

E. J. Wagner
 Vice President
 Nuclear Engineering

BEC0 5.92-064

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

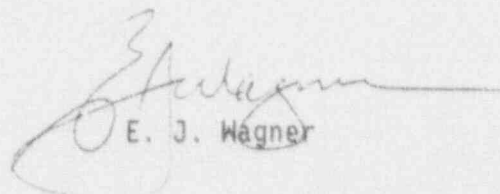
Massachusetts Division of Water Pollution Control
 Lakeville Hospital
 Lakeville, MA 02346

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 April 1992.



E. J. Wagner

RDA/cab/6438

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

9205260111 920430
 PDR ADOCK 05000293
 R PDR

COOL

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 April 1992.

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. For stormwater outfalls 004, 005, 006 and 007, Sigma 800 SL Portable Composite Samplers are utilized. The samplers are equipped with a "liquid level activator" that commences the sampling when the liquid reaches a predetermined level. This assures a sample is taken "within the first hour of the start of a significant storm event." The intake and collection assemblies of the samplers conform to U.S. EPA requirements for collecting oil and grease samples (BECO Letter 5.92.005). No additional inputs to these stormwater outfalls occur downstream of the composite samplers' sampling locations.
- E. Intake traveling water screens were operated with dechlorination pumps operating at all times.
- F. Sawdust was applied to seek and seal PNPS condenser leaks on April 10 (750 pounds), 13 (660 pounds), 14 (540 pounds), 15 (330 pounds), 16 (390 pounds), 17 (180 pounds), 18 (60 pounds), 19 (360 pounds) and 20 (240 pounds).
- G. The following boron and sodium nitrite discharges (ppm) occurred in April 1992 from discharge point #001. All discharges were below NPDES Permit limits prior to entering Cape Cod Bay.

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

Boron

4/7/92	8,016	0.47	0.0006
4/22/92	9,686	0.08	0.0001
4/28/92	11,356	0.05	0.0001

Sodium Nitrite

4/7/92	8,016	<20.0	<0.026
4/22/92	9,686	<20.0	<0.026
4/28/92	11,356	<20.0	<0.026

- H. The following measurements were made in April 1992 for stormwater yard drain Discharge Points 004, 005, 006 and 007.

<u>Drain #</u>	<u>Date</u>	<u>Suspended Solids (mg/l)</u>	<u>Oil & Grease (mg/l)</u>	<u>pH(SU)</u>
004	4/17/92	13.4	1.2	6.6
005	4/11/92	67.2	3.0	5.9
006		Not Sampled		
007		Not Sampled		

NOTE: The low pH value at Drain #005 may be explained by a low natural rainwater event pH of 4.0 on 4/11/92. Because of insufficient rainfall flow in Drain #006 and blockage of the sampler in Drain #007 these samples were unable to be collected in April. They will be reported in the next DMR for the month when they can be collected.

- I. By letter dated April 3, 1992 the U.S.EPA was requested to approve the continuous discharge of scrubber effluent from the Hydrogen Water Chemistry System which contains potassium hydroxide (KOH) that will be diluted to less than 0.005 ppm by PNPS circulating water flow (BECO Letter 5.92.043).
- J. Approximately 40 cubic yards of sand were removed from the concrete surfaces of the intake structure on April 30, 1992. It was pumped into breakwater crevices above the high tide mark. The sand removal was necessary to alleviate concern over its effects on normal operation of mechanical components/traveling screens, and it was expected to not have an adverse environmental impact. The removal operation was in accordance with Part I, Paragraph A.1.o. of the NPDES Permit.

ATTACHMENT 2 TO BECO LETTER 5.92-064

DISCHARGE MONITORING REPORT

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

MA 02161
 MA 02161

PERMIT NUMBER
 MA0003557

DISCHARGE NUMBER
 0011

MAJOR Form Approved.
 (SUBR 5 XOMB No. 2040-0004)
 F - FINAL Approval expires 6-30-91.
 CONDENSER COOLING WATER

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

MONITORING PERIOD
 FROM YEAR 92 MO 04 DAY 01 TO YEAR 92 MO 04 DAY 30
 (16-27) (24-28) (30-31)

PARAMETER (32-37)	AVERAGE (46-53)		QUANTITY OR LOADING (34-61)		MINIMUM (48-45)		AVERAGE (49-51)		MAXIMUM (54-61)		UNITS (15)	NO. EX (62-65)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	(38-41)	(42-45)	(34-37)	(38-41)	(48-45)	(49-51)	(54-61)	(54-61)						
TEMPERATURE WATER	*****	*****	*****	*****	*****	*****	*****	*****	77.6		(15) °F	0	99/99	RC
CONDENSER WATER	*****	*****	*****	*****	*****	*****	*****	*****	DLY MAX		DEG.F		CONTINRCORR	
PH	*****	*****	*****	*****	*****	*****	*****	*****	0.03		(19) Me/L	0	WH/TS	GR
TOTAL DISSOLVED SOLIDS	*****	*****	*****	*****	*****	*****	*****	*****	0.1		M/L	0	WHEN DISCHR	GRAB
FLUORIDE	*****	*****	*****	*****	*****	*****	*****	*****	DLY MAX		()	0	99/99	ES
TOTAL CHLORIDE	*****	*****	*****	*****	*****	*****	*****	*****	*****		()		CONTINESTIMA	
TEMP. DIFF. BETWEEN INTAKE AND DISCHARGE	*****	*****	*****	*****	*****	*****	*****	*****	30.5		(15) °F	0	99/99	CA
EFFLUENT GROSS VALUE	*****	*****	*****	*****	*****	*****	*****	*****	32		DEG.F		CONTINCALCTO	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 E.S. KRAFT
 PLANT MANAGER

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
 [Signature]

OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

AREA NUMBER
 508 747-9100

YEAR
 92

MO
 05

DAY
 13

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 P.1-N F0
 R BORON AND SODIUM NITRATE REPORTING REQUIREMENTS. ATTACH ALL RELATED REPORTS TO THIS FORM. A BARRIER
 THERMAL INTAKE WATER DISCHARGE FANALYTICAL TIMES

TYPED OR PRINTED

FORM 3384 (Rev. 10-85) ADDRESS ONLY

PAGE 1 OF 1

003561911731-1579

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

NAME ST. PILGRIM PLANT

ADDRESS 145 W. HILL ROAD

PLYMOUTH MA 02150

FACILITY PLYMOUTH

LOCATION MA 02150

ATTN: E.S. KRAFT, PLANT MANAGER

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

MAC003557
PERMIT NUMBER

021
DISCHARGE NUMBER

Form Approved
(SUA 5) OMB No. 2040-0004
F - FINAL Approval expires 5-30-91
THERMAL BACKWASH

MONITORING PERIOD

YEAR	MO	DAY	TO	YEAR	MO	DAY
92	04	01		92	04	30

*** NO DISCHARGE ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT	(1 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-65)	SAMPLE TYPE (66-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
TEMPERATURE, WATER	SAMPLE MEASUREMENT	*****	*****	()	*****	*****	*****	0	1/1/92	RC
DISCHARGE	PERMIT REQUIREMENT	*****	*****	****	*****	*****	*****	0	1/1/92	CONTINUOUS
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	*****	18.6	(03) MGD	*****	*****	*****	0	WH/OS	ES
FLOW IN CONDUIT OR THROUGH TREATMENT PLANT	PERMIT REQUIREMENT	*****	255.0	DAILY MAX MGD	*****	*****	*****	0	WH/OS	ES
EFFLUENT GROSS VALUE	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 <u>E.S. KRAFT</u> <u>PLANT MANAGER</u> 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 <u>E.S. Kraft</u>	TELEPHONE	DATE		
			508 747-8100	92	05	13

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 8 FOR CONDITIONS REGARDING TH

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

NAME 7-11 PILGRIM PLANT
 ADDRESS WILLY HILL ROAD
450 ST
PLYMOUTH MA 02360

FACILITY _____
 LOCATION _____

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

MAC003557 PERMIT NUMBER
 003 A DISCHARGE NUMBER

MAJOR Form Approved
 (SUBS 5 ROMB No. 2040-0004)
 F - FINAL Approval expires 6-30-91
 INTAKE SCREEN WASH

MONITORING PERIOD
 FROM YEAR 92 MO 04 DAY 01 TO YEAR 92 MO 04 DAY 30
(20-21) (2-29) (24-25) (26-27) (28-29) (30-31)

*** NO DISCHARGE [] ***
 NOTE: Read instructions before completing this form.

ATTN: E.S. KRAFT, PLANT MANAGER

PARAMETER (12-17)	SAMPLE MEASUREMENT	(1 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (54-61)				NO. EX (62-65)	FREQUENCY OF ANALYSIS (66-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW IN CONDUIT OR THROUGH TREATMENT PLANT Sample 1 PERMIT LIMIT AVERAGE VALUE		0.415	2.02	(G3) MGD	*****	*****	*****	()		0 01/1	ES
	PERMIT REQUIREMENT	2.1 MTH AVG	2.1 DLY MAX	MGD	*****	*****	*****	****			DAILY ESTIMA
	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 \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

[Signature]
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE 508 747-8100
 DATE 92 05 13
 AREA CODE NUMBER YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachment 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
 SUFFICIENTLY DISYAN FORM INTAKE STRUCTURES TO PREVENT REIMPINGEMENT.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
 NAME PLANT 43 PILGRIM PLANT
 ADDRESS ROCKY HILL ROAD
4FD #1
PLYMOUTH MA 02360
 FACILITY _____
 LOCATION _____

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

MA0003557
 PERMIT NUMBER

010 A
 DISCHARGE NUMBER

NADES Form Approved
 (SUBS 5 XOMB No. 2040-0004)
 F - FINAL Approval expires 6-30-91.
 PLANT SERVICE COOLING WATER

MONITORING PERIOD
 FROM YEAR 92 MO 04 DAY 01 TO YEAR 92 MO 04 DAY 30
(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)	X	(1 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)			NO. EX (62-65)	FREQUENCY OF ANALYSIS (56-61)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
DISCHARGE TOTAL RESIDUAL 34744 1 0 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	*****	*****	()	*****	0.12	0.47	(19) MG/L	0	9/99 RC
	PERMIT REQUIREMENT	*****	*****	****	*****	0.5 MTH AVG	1.0 DLY MAX	MG/L		CONTINROCDR UOUS
FLOW IN CONDUIT OR THRU TREATMENT PLANT 5051 1 0 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	5.30	*****	(03) MGD	*****	*****	*****	()	0	9/99 ES
	PERMIT REQUIREMENT	19.4 MTH AVG	*****	MGD	*****	*****	*****	****		CONTINESTINA 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 \$20,000 and/or maximum imprisonment of between 6 months and 5 years.)

William J. ...
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE 747-8100 DATE 92 05 13
 AREA NUMBER 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.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
 BAYBERRY MILK PLANT
 ADDRESS 25 KY HILL ROAD
 BLYBETH MA 02316
 FACILITY LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)
 (17-19)
 MA000552 PERMIT NUMBER
 011 A DISCHARGE NUMBER

DATE: 04/11/92
 FROM: 92 04 01 TO: 92 04 30
 MONITORING PERIOD

QUALITY OR CONCENTRATION (34-82)
 AVERAGE (46-53) QUANTITY OR LOADING (54-61) UNIT (55-60) MINIMUM (28-43) AVE. (46-53) MAXIMUM (34-82) UNITS (79) FREQUENCY OF ANALYSIS (84-88) SAMPLE TYPE (89-91)

NOTE: Read instructions before completing this form.
 *** NO DISCHARGE ***
 MAKE UP WATER AND DEMINERALIZE

PARAMETER (32-37) SAMPLE MEASUREMENT PERMIT REQUIREMENT

SOLIDS TOTAL
 SUSPENDED
 1
 1
 1
 1
 1

PLANT TREATMENT PLAN
 1
 1

PERMIT VALUE
 0.0003
 0.0004
 0.06
 0.15
 100
 100

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 E.S. KRAFT
 PLANT MANAGER
 TYPED OR PRINTED

PARAMETER (32-37)	AVERAGE (46-53)	QUANTITY OR LOADING (54-61)	UNIT (55-60)	MINIMUM (28-43)	AVE. (46-53)	MAXIMUM (34-82)	UNITS (79)	FREQUENCY OF ANALYSIS (84-88)	SAMPLE TYPE (89-91)
SOLIDS TOTAL	0.0003	0.0004	(0.3)	*****	2.5	6.2	(10) ME/L	0	O/RA GR
SUSPENDED	0.0003	0.0004	(0.3)	*****	30	100	ONCE BATCH	0	ONCE BATCH
1	0.0003	0.0004	(0.3)	*****	*****	*****	()	0	IN/DS ES
1	0.0003	0.0004	(0.3)	*****	*****	*****	()	0	WHEN ESTIMA DISCHR
1	0.0003	0.0004	(0.3)	*****	*****	*****	()	0	WHEN ESTIMA DISCHR
1	0.0003	0.0004	(0.3)	*****	*****	*****	()	0	WHEN ESTIMA DISCHR

TELEPHONE: 508 747-8100
 AREA CODE: 508
 NUMBER: 747-8100
 DATE: 92 05 13

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachment(s))
 SEE PAGE 5 OF PERMIT PARAGRAPH N FOR SODIUM NITRATE REPORTING REQUIREMENTS. ATTACH ALL RELATED REPORTS TO THIS FORM
 EPA Form 3520-1 (Rev. 9-88) Previous editions may be used.