

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9505020473 DOC.DATE: ~~94/12/81~~ NOTARIZED: NO DOCKET #  
FACIL:50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400  
AUTH.NAME AUTHOR AFFILIATION  
ROBINSON,W.R. Carolina Power & Light Co.  
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: "Shearon Harris Nuclear Power Plant Unit 1 Annual Environ  
(Nonradiological) Operating Rept for Jan -Dec 1994." W/  
950421 ltr.

DISTRIBUTION CODE: IE25D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 10  
TITLE: Environmental Monitoring Rept (per Tech Specs)

NOTES:Application for permit renewal filed. 05000400

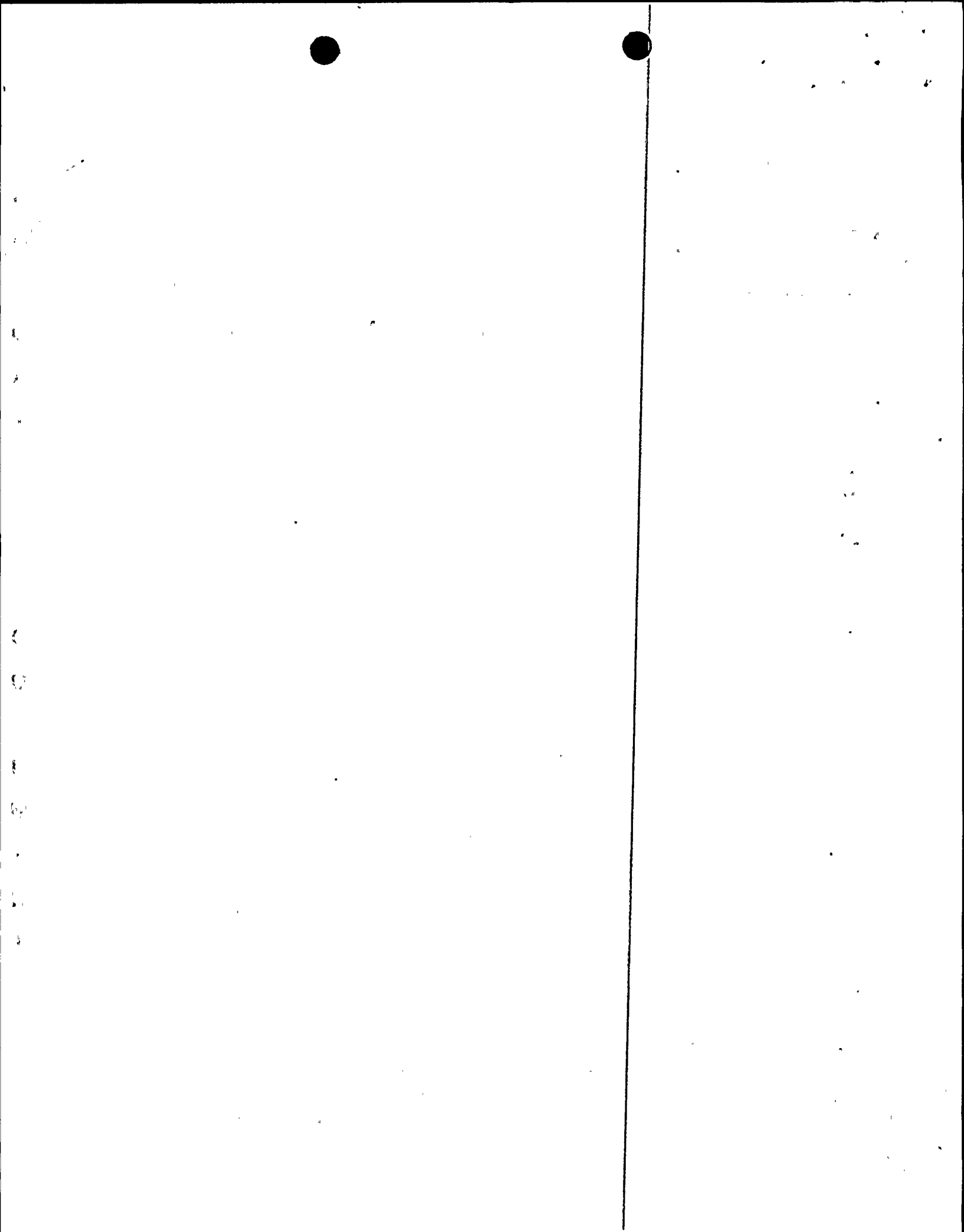
	RECIPIENT		COPIES			RECIPIENT		COPIES	
	ID CODE/NAME		LTR	ENCL		ID CODE/NAME		LTR	ENCL
	PD2-1 LA		3	3		PD2-1 PD		1	1
	LE,N		1	1					
INTERNAL:	ACRS		1	1		<u>FILE CENTER 01</u>		1	1
	NRR/ADAR/PDLR		1	1		RGN2 DRSS/RPB		1	1
	RGN2 FILE		1	1					
EXTERNAL:	LITCO AKERS,D		1	1		NRC PDR		1	1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL  
DESK, ROOM P1-37 (EXT. 504-2083) TO ELIMINATE YOUR NAME FROM  
DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 12 ENCL 12

P  
R  
I  
O  
R  
I  
T  
Y  
  
1  
  
D  
O  
C  
U  
M  
E  
N  
T





Carolina Power & Light Company  
PO Box 165  
New Hill NC 27562

William R. Robinson  
Vice President  
Harris Nuclear Plant

APR 21 1995

File: HO-950551

Serial: HNP-95-045

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
ANNUAL ENVIRONMENTAL (NONRADIOLOGICAL) OPERATING REPORT

Gentlemen:

In accordance with Section 5.4.1 of the Environmental Protection Plan issued as Appendix B of the Operating License (NPF-63) for the Shearon Harris Nuclear Power Plant, Carolina Power & Light Company herewith submits the enclosed Annual Environmental (Nonradiological) Operating Report for 1994.

Questions regarding this transmittal may be referred to Mr. D. C. McCarthy at (919) 362-2100.

Sincerely,

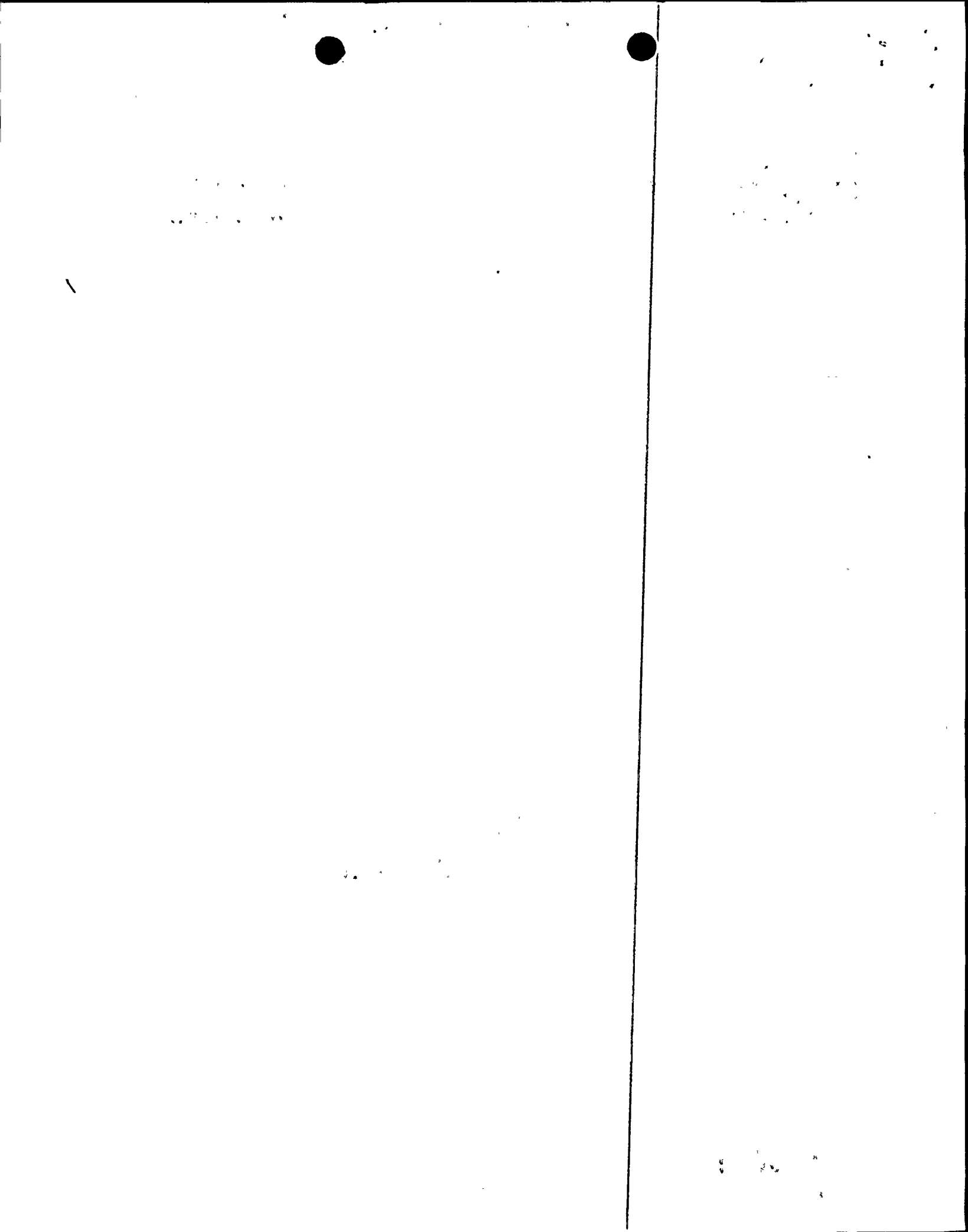
W. R. Robinson

MGW

Attachment

c: Mr. S. D. Ebnetter (NRC-RII)  
Mr. S. A. Elrod (NRC-SHNPP)  
Mr. N. B. Le (NRR)

9505020473 941231  
PDR ADCK 05000400  
R PDR



**SHEARON HARRIS NUCLEAR POWER PLANT**

**UNIT 1**

**ANNUAL ENVIRONMENTAL  
(NONRADIOLOGICAL)  
OPERATING REPORT**

**APPENDIX B**

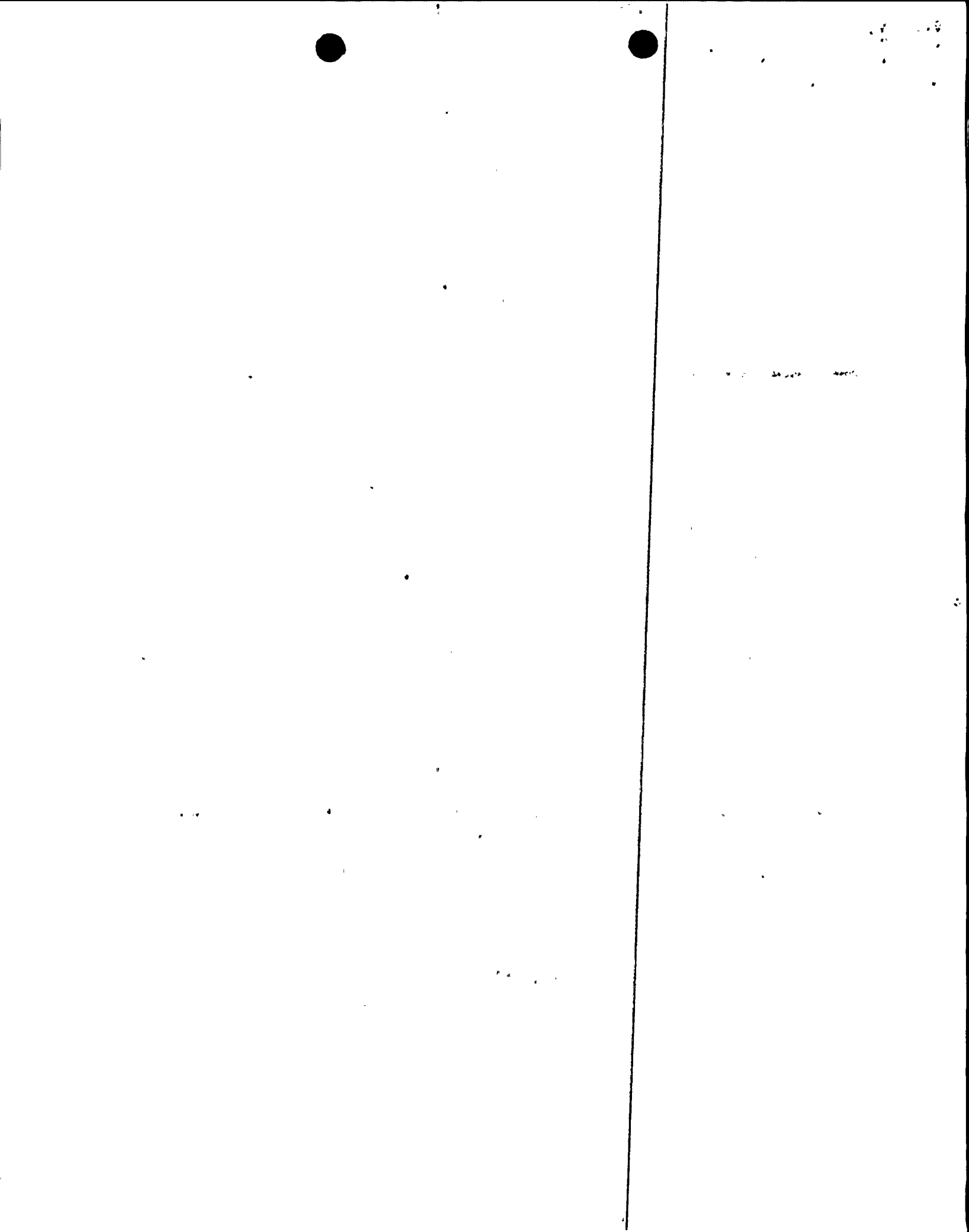
for

January 1-December 31, 1994

**CAROLINA POWER & LIGHT COMPANY**

Docket No. 50-400

Facility Operating License No. NPF-63



## 1.0 INTRODUCTION

Carolina Power & Light Company (CP&L) received a low-power Facility Operating License (No. NPF-53) and full-power Facility Operating License (No. NPF-63) for the Shearon Harris Nuclear Power Plant (SHNPP), Unit 1, from the U.S. Nuclear Regulatory Commission (NRC) on October 24, 1986, and January 12, 1987, respectively. Appendix B (the Environmental Protection Plan [nonradiological]) of the full-power license requires submittal of an Annual Environmental (nonradiological) Operating Report to the NRC describing the implementation of the plan during the previous year. The purpose of this document is to fulfill the requirement for the period January 1-December 31, 1994.

## 2.0 PLANT CONSISTENCY REQUIREMENTS [EPP Section 3.0]

### 2.1 Plant Design and Operation

There were no changes in plant design or operation plans, and there were no tests or experiments performed which were considered to involve an unreviewed environmental question during the reporting period.

### 2.2 Reporting Related to the NPDES Permit

All required NPDES monitoring data were submitted to the North Carolina Division of Environmental Management (NCDEM) *via* monthly discharge monitoring reports and separate correspondence as warranted.

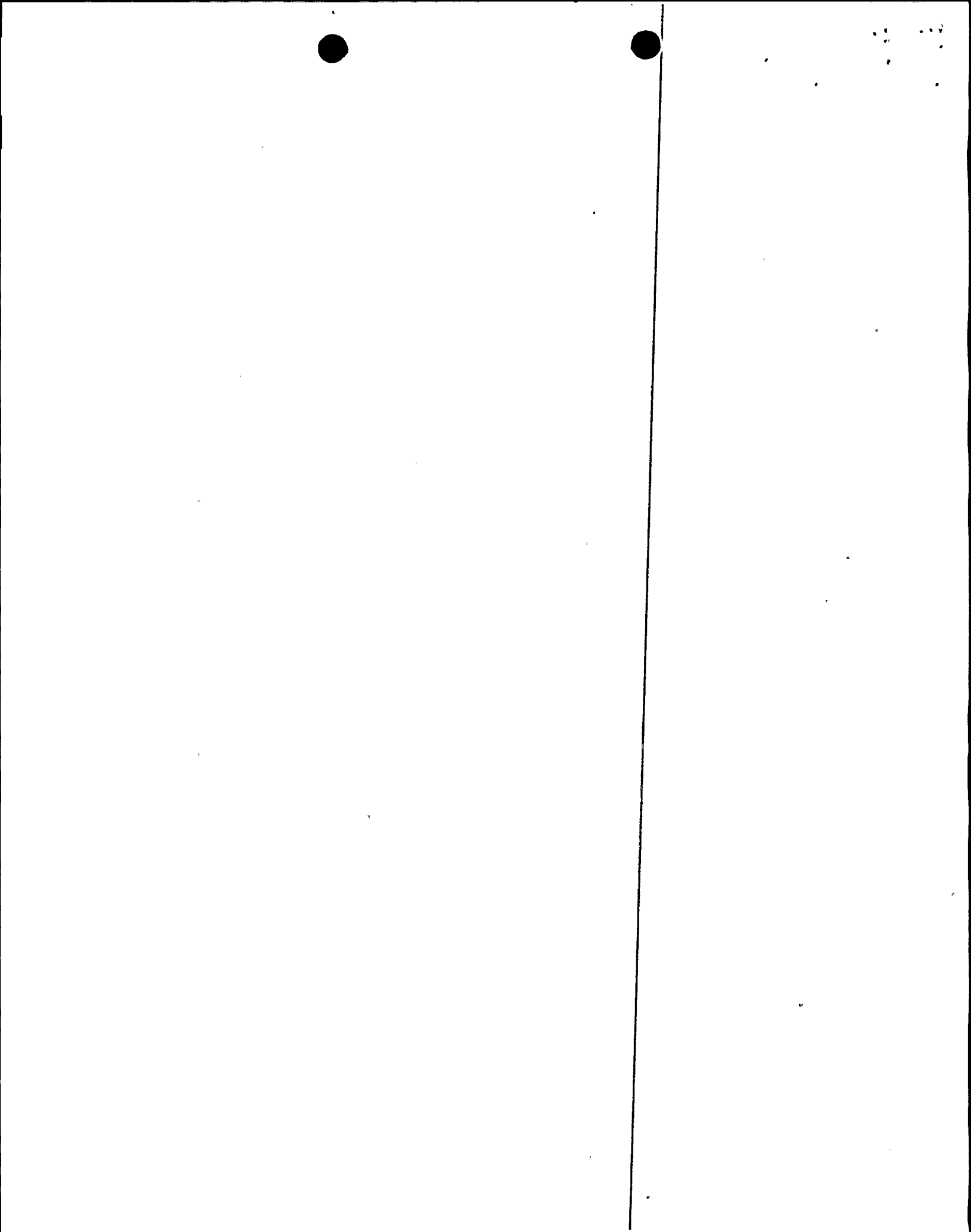
## 3.0 UNUSUAL OR IMPORTANT ENVIRONMENTAL EVENTS [EPP Section 4.1]

No occurrence of an unusual or important environmental event that would indicate or could result in a significant environmental impact causally related to plant operation occurred during the reporting period. No releases or exceedances of permit conditions caused any significant environmental impact.

## 4.0 ENVIRONMENTAL MONITORING [EPP Section 4.2]

### 4.1 Aquatic Monitoring [EPP Section 4.2.1]

Under the authority of the Clean Water Act, the state of North Carolina reissued a National Pollutant Discharge Elimination System (NPDES) permit (NC0039586) for the SHNPP on November 1, 1991. This permit will remain in effect until March 31, 1996. The current permit reflects a reclassification of the facility from a Class II to a Class III designation. The Class III designation requires that the laboratory analyses performed on all effluent samples be performed by a laboratory certified by the state. In accordance with this requirement, the SHNPP Environmental &





Chemistry Laboratory was certified by the NCDEM as a Wastewater Laboratory, effective January 11, 1993, and the certification is valid through December 31, 1995. The Toxicity Testing Laboratory and the Chemistry Laboratory at the Harris Energy & Environmental Center were also certified by the NCDEM for toxicity testing and wastewater analyses, respectively to support the SHNPP operations. The Toxicity Testing Laboratory certification was valid under two certifications from November 1, 1992 through November 1, 1994, and from November 1, 1994 through November 1, 1995. The Chemistry Laboratory certification was renewed on January 1, 1994, and is valid through December 31, 1997.

#### 4.1.1 Effluent Monitoring

Routine effluent monitoring was conducted and reported to the NCDEM as required by the NPDES permit. NPDES noncompliances that occurred during 1994 were:

##### A. Strainer Backwash Surge Basin Overflow

In accordance with Part II, E (9) (c) of the NPDES Permit, a strainer backwash surge basin (also referenced as a screen washing basin) overflow at the SHNPP was reported to the staff of the Raleigh Regional Office of the NCDEM by telephone on January 18, 1994.

On January 16, 1994 at 2:30 p.m., SHNPP personnel found the normal service water strainer backwash surge basin overflowing to an adjacent storm drain. Personnel immediately secured the discharge. Frozen equipment had caused a continuous inflow of water into the basin that subsequently resulted in the overflow. Duration of the overflow was estimated at 90 minutes with an estimated total discharge of 18,000 gallons. Recurrence was highly unlikely and no harm to the environment or human health occurred during or after the overflow.

##### B. Elevated Total Suspended Solids

In accordance with Part II, E. 6. (b) (B) of the NPDES Permit, notification concerning elevated total suspended solids (TSS) values resulting from an upset at the Sanitary Waste Treatment Plant (Outfall No. 002) was reported by SHNPP personnel to the Raleigh Regional Office of the NCDEM by telephone on February 14, 1994 with follow-up notification made by telephone on February 17, 1994.



• • •  
• • •  
• • •

The TSS results obtained during February 15-25, 1994 that exceeded the permitted daily maximum concentration of 45 mg/liter were:

<u>Date</u>	<u>Units (mg/L)</u>
2-15-94	57
2-16-94	56
2-17-94	183
2-18-94	262
2-21-94	66
2-23-94	54
2-25-94	65

The February 1994 monthly average was 56 mg/liter which exceeded the permitted monthly average concentration of 30 mg/liter.

Additionally, an elevated biochemical oxygen demand (BOD) concentration (48 mg/liter BOD) from a sample collected at the sanitary waste treatment plant on February 17, 1994 was reported to the Raleigh Regional Office of the NCDEM by telephone on February 24, 1994. The permitted daily maximum concentration of BOD is 45 mg/liter. The elevated BOD concentration was an additional result of the ongoing upset.

The extremely low temperatures during January 1994 followed by a temperature increase in February 1994 at Outfall No. 002 did not allow for the acclimation of the microorganisms within the sanitary waste treatment plant to either temperature range. This event killed the microorganisms within the treatment plant causing the TSS concentrations to increase. In the year previous to this upset, the treatment plant had been in compliance with its effluent limitations. Therefore, the treatment plant was being operated properly at the time of the upset.

In accordance with Part II, B. 2 of the NPDES Permit, plant personnel implemented steps to mitigate this upset: 1) requested assistance from the NCDEM, 2) seeded the treatment plant to replenish the microorganisms lost during the temperature event, and 3) followed the guidance provided by the NCDEM during its site visit during the upset. Communication with the Raleigh Regional Office of the NCDEM continued during the upset and no harm to the environment or human health occurred during or after this upset.

In accordance with Part II, C (5) (c) of the NPDES Permit, a letter dated March 4, 1994 provided written submission for the upset at the Sanitary Waste Treatment Plant (Outfall No. 002) at the SHNPP. The time frame for

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

this written submission was agreed upon with staff of the Raleigh Regional Office of the NCDEM.

C. Leaking Normal Service Water Backwash Valve

In accordance with Part II, E (9) (c) of the NPDES Permit, a leaking normal service water backwash valve at the SHNPP was reported to the Raleigh Regional Office of the NCDEM by telephone on April 12, 1994.

On April 12, 1994 at 10:00 a.m., SHNPP personnel found the normal service water backwash valve leaking. The discharge flowed onto the ground and into an adjacent storm drain. Plant personnel secured the discharge at 11:05 a.m. The rate of leakage from the valve was estimated at 3-5 gallons per minute. Recurrence was highly unlikely and no harm to the environment or human health occurred during or after the discharge.

D. Misalignment of Valve

In accordance with Part II, E (9) (c) of the NPDES Permit, a misalignment of valve positions resulting in a discharge of cooling tower water at the SHNPP was reported to the Raleigh Regional Office of the NCDEM by telephone on May 4, 1994.

On May 3, 1994 at 5:13 p.m., SHNPP personnel misaligned some valve positions which resulted in a discharge of cooling tower water that flowed onto the ground and into an adjacent storm drain upstream of Harris Lake. Upon discovery, plant personnel immediately secured the discharge. The total amount discharged was estimated at 100 gallons. Recurrence was highly unlikely and no harm to the environment or human health occurred during or after the discharge.

E. Exceedance of a Daily Maximum Limitation for Fecal Coliform

In accordance with Part II, E (6) (b) (C) of the NPDES Permit, an exceedance of a daily maximum limitation at the SHNPP was reported by telephone to the Raleigh Regional Office of the NCDEM on August 4, 1994.

On August 4, 1994, SHNPP personnel became aware of an exceedance of the daily maximum limit for fecal coliform. The exceedance was on the sample obtained on July 22, 1994. A Notice of Violation was issued because of the exceedance. Performance problems with the chlorination pump during the time of the sampling were believed to have been the cause of the exceedance. The performance problems were subsequently corrected. Recurrence was



11  
12  
13

14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

highly unlikely and no harm to the environment or human health occurred during or after the exceedance.

Noncompliances with the NPDES permit were corrected promptly and were not of an ongoing nature. Noncompliances were reported to NCDEM with no additional actions required by NCDEM.

#### 4.1.2 Other

There were no other reportable events during 1994.

#### 4.1.3 Aquatic Biological Monitoring

Semiannual monitoring for the Asiatic clam *Corbicula fluminea* in the Emergency Service Water System (e.g., intake canals and structures and the Service Building fire protection system) was conducted in April and October 1994. On April 6, 1994, a single Asiatic clam was collected downstream of the Bay 6 traveling screen of the Emergency Service Water intake structure. Additionally, one Asiatic clam was collected immediately downstream of the Bay 6 traveling screen for the Emergency Service Water screening structure. The density at each location was estimated to be 14 clams/m<sup>2</sup>. No Asiatic clams were collected from the main intake canal, the Service Building fire protection system, or the auxiliary reservoir intake canal.

On October 6, 1994, two Asiatic clams were collected from each of three locations: 1) immediately downstream of the Bay 6 traveling screen for the Emergency Service Water intake structure, 2) the cooling tower makeup pump Bay C of the Emergency Service Water intake structure, and 3) the intake pump Bay 8 of the Emergency Service Water screening structure. The estimated density at each location was 29 clams/m<sup>2</sup>. Additionally, Asiatic clams were collected from a location within the main intake canal, approximately 50 m from the main intake structure, and from a location within the auxiliary reservoir intake canal, approximately 20 m from the Emergency Service Water screening structure. Estimated densities at these locations were 14 and 144 clams/m<sup>2</sup>, respectively. Asiatic clams were also collected at the mouth of the main intake canal with densities estimated at 14 clams/m<sup>2</sup>. No clams were collected at the mouth of the auxiliary reservoir intake canal or in the Service Building fire protection system.

Additional samples were collected on August 22, 1994 and on October 6, 1994 in the auxiliary reservoir intake canal and near the point of discharge of a make-up water pipe at the Emergency Service Water screening structure. In August, estimated densities were greatest (603 to 3,577 clams/m<sup>2</sup>) near the

42766-2-14. 2 2000 00 00 00 00 00

42766-2-14. 2 2000 00 00 00 00 00



make-up pipe and decreased with distance from this discharge. Densities on October 6, 1994 were estimated to be 3,500 clams/m<sup>2</sup> near the make-up pipe.

Asiatic clams caused no biofouling of plant water systems during 1994.

During 1994 monitoring for the zebra mussel *Dreissena polymorpha* and quagga mussels *D. bugensis* was continued in areas of likely infestation such as the public boat ramp area near Hollemans Crossroads which was monitored monthly. A zebra mussel sampler (constructed of a PVC frame and fitted with removable PVC plates) was suspended in the main reservoir near the Emergency Service Water intake structure and examined during April and October 1994. The Emergency Service Water intake and screening structures and both intake canals were also monitored during the routine (April and October) Asiatic clam sampling. No zebra mussels or quagga mussels were found during 1994.

Since 1988 hydrilla *Hydrilla verticillata*, a nonnative aquatic weed, has been established in Harris Lake. A visual survey made during October 1994 revealed that hydrilla was established in water less than 3 m deep in all major arms of the reservoir. The total areal coverage was estimated to be approximately 445.1 ha. This coverage was 12.1 ha greater than that during the fall of 1993. Much of the increased acreage occurred in the Buckhorn Creek arm and this was the first time hydrilla had been observed in this area of the reservoir.

Similar to the observations made in October 1993, a few floating fragments of hydrilla were also observed in the auxiliary reservoir during October 1994. In the fall of 1994, grass carp *Ctenopharyngodon idella* were subsequently stocked in the auxiliary reservoir to control hydrilla.

No impacts to Harris Plant operation from hydrilla have occurred nor are they expected because of the low velocity of water drawn from the main lake into the cooling tower makeup water intake structure.

**4.2 Terrestrial Monitoring** [EPP Section 4.2.2]

Terrestrial monitoring is not required.

**4.3 Noise Monitoring** [EPP Section 4.2.3]

Noise monitoring is not required.

11/20/88, 11/20/88, 11/20/88

**5.0 EPP Audit**

[EPP Section 5.1]

An audit conducted by an independent corporate entity was performed to verify the completeness and accuracy of the conditions and activities described in this annual environmental operating report. The results of that audit are summarized in the attached letter.

**6.0 PLANT REPORTING REQUIREMENTS**

[EPP Section 5.4]

**6.1 EPP Noncompliances**

There were no EPP noncompliances identified during the reporting period.

**6.2 Changes in Station Design**

There were no changes in plant design or operation plans, and there were no tests or experiments performed which involved a potentially significant unreviewed environmental question during the reporting period.

**6.3 Nonroutine Reports**

There were no nonroutine reports identified during the reporting period.



April 13, 1995

Dr. G. J. Oliver  
Manager - Environmental Services  
Nuclear Services and Environmental Support Department

Dear Dr. Oliver:

A review of the Harris Nuclear Plant Unit 1 (HNP) Annual Environmental (Nonradiological) Operating Report was recently completed. The report is issued to comply with the reporting requirements of the U. S. Nuclear Regulatory Commission (NRC) established in Appendix B, Environmental Protection Plan (Nonradiological), of the HNP Facility Operating License No. NPF-63. The objective of the review was to assess the accuracy and completeness of the report for the period January 1, 1994, through December 31, 1994.

The scope of our work was limited to a review of the controls, procedures, and supporting documentation related to the report and interviews with HNP and Environmental Services personnel. Based on the audit procedures performed, the Annual Environmental (Nonradiological) Operating Report appears to be complete, accurate, and in compliance with NRC reporting requirements.

We appreciate the excellent cooperation received from Environmental Services and HNP personnel. If you have any questions concerning this report, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'John W. Griffith'.

John W. Griffith  
Manager - Environmental Audits

JWG/gtv

c: Mr. H. W. Habermeyer, Jr.  
Mr. W. R. Robinson, Jr.

Audit Team:

Mr. G. T. Vinzani



11 11 11  
11 11 11  
11 11 11  
11 11 11