

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 19, 1993

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 93-091
NAPS/JHL
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT NOS. 1 AND 2
ANNUAL ENVIRONMENTAL OPERATING REPORT

Pursuant to Section 5.4.1 of the Appendix B Technical Specifications, Environmental Protection Plan, enclosed is the Annual Environmental Operating Report for North Anna Power Station Unit Nos. 1 and 2 for 1992.

If you have any questions or require additional information, please contact us.

Very truly yours,



for W. L. Stewart
Senior Vice President - Nuclear

Enclosure

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 2900
Atlanta, Georgia 30323

Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

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1/1

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

UNITS 1 AND 2

APPENDIX B

ENVIRONMENTAL PROTECTION PLAN

1992 ANNUAL REPORT

DOCKET NOS. 50-338 AND 50-339

INTRODUCTION

This 1992 Environmental Operating Report for the North Anna Station is submitted by Virginia Electric and Power Company as required under Section 5.4.1 of Appendix B, Environmental Protection Plan (EPP). The objectives of the EPP are to verify that the power station is operated in an environmentally acceptable manner, to coordinate NRC requirements, maintain consistency with other federal, state and local requirements, and to keep NRC informed of the environmental effects of facility construction and operation. During 1992, no significant adverse environmental impact occurred as a result of the operation of North Anna Power Station, Units 1 and 2. Aquatic issues are addressed in the licensee's NPDES permit number VA 0052451 issued by the Virginia State Water Control Board and the NRC relies on this agency for regulation of matters involving water quality and aquatic biota. Listed below are the summaries and reports as required under Section 5.4.1 of the EPP.

PLANT DESIGN AND OPERATION (SECTION 3.1)

There were no changes in station design and operation proposed in 1992 that involved a potentially significant unreviewed environmental issue.

TRANSMISSION LINE RIGHT OF WAY HERBICIDE MANAGEMENT (SECTION 4.2.1)

No herbicides were used for brush control on the North Anna - Midlothian, North Anna - Morrisville, the North Anna - Ladysmith 500 kV lines or the North Anna - Gordonsville 230 kV line during 1992.

TRANSMISSION LINE RIGHT OF WAY EROSION CONTROL INSPECTION
(SECTION 4.2.2)

Erosion inspection on right of way was made on the North Anna - Midlothian, North Anna - Morrisville, North Anna - Gordonsville, and North Anna - Ladysmith lines on August 25, 1992. Locations were recorded where erosion was taking place on the North Anna - Morrisville, North Anna - Midlothian, North Anna - Gordonsville and the North Anna - Ladysmith lines. Most of these locations noted were caused by vehicle travel up and down the right of way. These areas were disced, fertilized, seeded, and mulched to prevent erosion.

STATION SITE EROSION CONTROL (SECTION 4.2.2)

An on-site erosion control inspection was performed at North Anna Power Station by the Civil/Design Engineering Department beginning December 15, 1992 and ending on December 30, 1992, according to Periodic Test Procedures 1-PT-9.3, Erosion Control Inspection - Station Site. Although erosion was minor or non-existent in most areas, several sites were found where slight erosion problems needed to be addressed. Areas of erosion were found on the western face of the floodwall; the northeast slope below the Chemical Addition Building and northeast of the Service Water Valve House. Also, a crack in the concrete paved ditch adjacent to the discharge canal between the Fire Protection Pump House and Fabric Water Tank will be repaired to prevent erosion undermining. Repairs have been initiated for these areas.

NONCOMPLIANCE (SECTION 5.4.1)

There were no Environmental Protection Plan occurrences of noncompliance during 1992.

NONROUTINE REPORTS (SECTION 5.4.2)

Enclosed are copies of letters detailing the occurrence of two unanticipated discharges (pages 4 - 7), three oil spills (pages 8 - 13), and one NPDES pH exception (pages 14 - 17). None of the reported events resulted in a significant environmental impact causally related to station operation.

June 19, 1992

Mr. William L. Kregloe
Virginia Water Control Board
Valley Regional Office
116 North Main Street
P. O. Box 268
Bridgewater, VA 22812

RE: NORTH ANNA POWER STATION, VPDES PERMIT NO. VA0052451 -
HYDRAZINE SPILL 6/13/92

Dear Mr. Kregloe:

A spill of hydrazine occurred at North Anna Power Station on June 13, 1992. Hydrazine is an Extremely Hazardous Substance with a Reportable Quantity of one pound if released to the environment in any 24-hour period. This letter confirms our reports of the incident to Mr. Evanson at the National Response Center at 0945 hours, Mr. Harvell at the Department of Emergency Services at 0955 hours, and Mr. Porter of the Louisa County Local Emergency Planning Committee at 1000 hours, on that date.

Between approximately 0615 and 0735 hours on June 13, station personnel accidentally overfilled a chemical addition tank with a 35% hydrazine solution which overflowed into the Unit 2 turbine building sump. At the time of the overflow, the sump was being pumped through the oil/water separator (Outfall 004) to the discharge canal which flows into the Waste Heat Treatment Facility. Some of the hydrazine solution was contained at the turbine building sump and neutralized with hydrogen peroxide. By our worst case calculations, a maximum of 161 pounds of hydrazine was spilled and could have entered the discharge canal; the actual amount was somewhat less but cannot be precisely determined.

Due to the mixing and aeration provided by turbulence in the discharge canal and its volume, it is expected that the relatively small amount of hydrazine reaching the canal was very quickly oxidized and none would have persisted long enough to leave the canal. No detrimental environmental effects from this spill were detected. Fish in the canal in the area of the discharge were observed for a period following the spill and there were no discernible changes in numbers, distribution or behavior. There are no known or anticipated acute or chronic health risks associated with this spill.

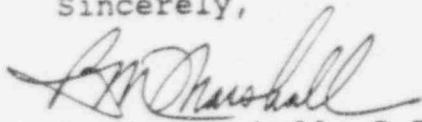
Mr. William L. Kregloe
June 19, 1992
Page 2

In order to preclude future recurrence of this incident, increased surveillance of tank filling operations and the equipment involved will be implemented. No further remedial actions are necessary as it is expected that no residual hydrazine exists in the discharge to the canal or in the Waste Heat Treatment Facility.

Hydrazine has been previously identified as a potential constituent of the station's discharge. However, in this event, the spill route was into the station discharge canal, where adequate treatment was provided, and the hydrazine was not released to the environment. The notifications above were made as a precautionary measure due to the nature of the spilled substance and its potential for detrimental effects.

Should you desire additional information or have any questions about this matter, please contact Daniel James at (804) 273-2996.

Sincerely,




B. M. Marshall, P.E.
Manager
Water Quality

cc: U.S. Nuclear Regulatory Commission
Docket No. 50-338/50-339
101 Marietta Street, N.W.
Suite 2900
Atlanta, GA 30323

U.S. Nuclear Regulatory Commission
Attn: Docket Control Desk
Docket No. 50-338/50-339
Washington, DC 20555

Mr. M. S. Lesser
NRC Sr. Resident Inspector
North Anna Power Station

bc: J. P. O'Hanlon-IN 2E
R. F. Saunders-IN 2E
R. O. Infinger-NA
J. A. Stall-NA
A. h. Stafford-NA
P. A. Kemp-NA
A. C. Cooke-NA
W. A. Thornton-IN 2E
M. F. Kadlubowski,
D. L. James) 

North Anna
COR 14/Violations

September 10, 1992

Mr. William L. Kregloe
Virginia Water Control Board
Valley Regional Office
116 North Main Street
P. O. Box 268
Bridgewater, VA 22812

RE: NORTH ANNA POWER STATION, VPDES PERMIT NO. VA0052451 -
POTASSIUM CHROMATE DISCHARGE 9/4/92

Dear Mr. Kregloe:

A discharge of potassium chromate through Outfall 003 occurred at North Anna Power Station on September 4, 1992. This letter confirms the telephone report of the discharge to you by Mr. A. C. Cooke on that date. Potassium chromate is a CERCLA hazardous substance with a reportable quantity of ten pounds if released to the environment in a 24-hour period. This release did not meet or exceed the reportable quantity of ten pounds; therefore, this incident was not reported to the National Response Center or the Local Emergency Planning Committee.

Station personnel had been tracking a decline in the chromated component cooling water system for several days prior to September 4, 1992. At approximately 0500 hours on September 4, it was determined that the component cooling water system was leaking into the secondary system blowdown through one of the heat exchangers. This was allowing potassium chromate to be discharged into the station's discharge canal, which flows into the Waste Heat Treatment Facility, at a rate of 0.4 pounds per day through permitted Outfall 003 (process water clarifier). Station personnel immediately isolated the blowdown system and removed any residual through the drain system, which is processed by a demineralizer.

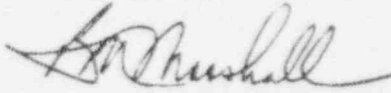
No detrimental environmental effects from this incident were detected. There are no known or anticipated acute or chronic health risks associated with this incident. The quantity of potassium chromate involved in this event would not result in a detectable concentration in the discharge to Lake Anna from the Waste Heat Treatment Facility.

The leak in the heat exchanger system has been identified and corrected and the blowdown system has been returned to normal operation. In order to preclude future recurrence of this incident, an investigation has been initiated to determine what caused the leak.

Mr. William L. Kregloe
September 10, 1992
Page 2

Should you desire any additional information or have any questions about this matter, please contact Daniel James at (804) 273-2996.

Sincerely,



B. M. Marshall, P.E.
Manager
Water Quality

cc: U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW
Suite 2900
Atlanta, GA 30323
Re: North Anna Units 1 & 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
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Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

March 4, 1992

Mr. William L. Kregloe
Virginia Water Control Board
Valley Regional Office
116 North Main Street
P. O. Box 268
Bridgewater, VA 22812

RE: NORTH ANNA POWER STATION - OIL SPILL 2/26/92

Dear Mr. Kregloe:

An oil spill occurred at North Anna Power Station on February 26, 1992. This letter confirms our report of the incident to Mr. Sineath at the Department of Emergency Services at 2030 hours on that date.

At approximately 1915 hours on February 26, station personnel discovered a diesel fuel oil leak at the fuel pumphouse. Upon investigation, it was determined that the diesel fuel was coming from the fuel oil transfer system supplying the auxiliary boiler which was in operation at that time. A broken fuel oil pump strainer drain had leaked the fuel into the sump. This equipment failure resulted in the discharge of approximately 1000 gallons to the storm drain system.

The majority of the lost diesel fuel was contained within the storm drain pipe with an estimated less than 5 gallons discharging into the discharge canal at Outfall 004. The fuel which escaped the storm drain was captured by the oil boom in the canal and removed with absorbents. None of the fuel reached the Waste Heat Treatment Facility outside the discharge canal. No evidence of environmental damage was found.

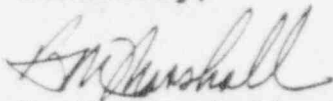
Diesel fuel trapped in the storm drain pipe was pumped out into a vacuum tank truck. The storm drain pipe was flushed with water to remove as much residual as possible with all fuel being removed at the 004 catch basin. The fuel/water mixture from the storm drain and catch basin was pumped into drums to be held with the contaminated absorbent materials for proper disposal.

Mr. William L. Kregloe
March 4, 1992
Page 2

In order to preclude future recurrence of this incident, an increased preventive maintenance program for, and increased surveillance of, the equipment involved will be implemented. It is expected that some residual fuel remaining in the storm drain pipe may continue to be flushed out in small quantities until the pipe is completely cleansed. However, the existing practice of maintaining absorbents at the 004 basin will ensure capture of any remaining fuel.

Should you desire additional information or have any questions about this matter, please contact Daniel James at (804) 273-2996.

Sincerely,

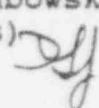


B. M. Marshall, P.E.
Manager
Water Quality

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Mr. M. S. Lesser
NRC Sr. Resident Inspector
North Anna Power Station

bc: J. P. O'Hanlon-IN 2E
R. F. Saunders-IN 2E
G. E. Kane-NA
J. A. Stall-NA
A. H. Stafford-NA
P. A. Kemp-NA
A. C. Cooke-NA OK'd by PHONE 3-4-92
W. A. Thornton-IN 2E
M. F. Kadlubowski) MBK 030492
D. L. James) 

North Anna
ENV 43/Oil Spill Rpts.

August 24, 1992

Mr. William L. Kregloe
Virginia Water Control Board
Valley Regional Office
116 North Main Street
P. O. Box 268
Bridgewater, VA 22812

RE: NORTH ANNA POWER STATION - OIL SPILL 8/20/92

Dear Mr. Kregloe:

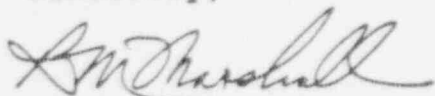
An oil spill occurred at the Lake Anna Dam on August 20, 1992. This letter confirms our report of the incident to Mr. Ray Tesh of your agency at 0915 hours on that date.

At approximately 0710 hours on August 20, three to five gallons of kerosene spilled from a portable heater being used at the Lake Anna Dam spillway to dry out some wet equipment on the 5B hydroelectric unit. Apparently, the flame in the heater went out but the fan continued to run, drawing kerosene out of the tank and spraying it out of the heater. The kerosene ran out of the hydroelectric unit into the North Anna River below the dam. The majority of the spilled kerosene was retained and captured by an oil boom and absorbent pads and removed for proper disposal. Station personnel estimate that less than one gallon escaped the oil boom.

No evidence of environmental damage, residual floating kerosene, or sludges were found during an inspection of the river downstream. No remedial actions are needed at this time since both the use of the heater and its malfunction are atypical events. Additional precautions will be implemented if portable heaters are to be used in this capacity in the future.

Should you desire additional information or have any questions about this matter, please contact Daniel James at (804) 273-2996.

Sincerely,



B. M. Marshall, P.E.
Manager
Water Quality

Mr. William L. Kregloe
August 24, 1992
Page 2

cc: U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW
Suite 2900
Atlanta, GA 30323
Re: North Anna Units 1 & 2
Docket Nos. 50-338/50-339
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Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

October 8, 1992

Mr. William L. Kregloe
Virginia Water Control Board
Valley Regional Office
116 North Main Street
P. O. Box 268
Bridgewater, VA 22812

RE: NORTH ANNA POWER STATION - OIL RELEASE 10/2/92

Dear Mr. Kregloe:

An oil release to the discharge canal occurred at North Anna Power Station on October 2, 1992. This letter confirms our report of the incident to the Department of Emergency Services at 2102 hours, and to the National Response Center at 2105 hours, on that date. Notification was also made to the Nuclear Regulatory Commission at 2144 hours.

At approximately 1900 hours on October 2, station personnel discovered an oil sheen on the discharge canal. Upon investigation it was determined that oily water being pumped to the oil/water separator for treatment had been inadvertently pumped to the outlet side of the separator rather than the inlet side as intended. Therefore, the oily water bypassed the treatment unit and was discharged into the canal at Outfall 004.

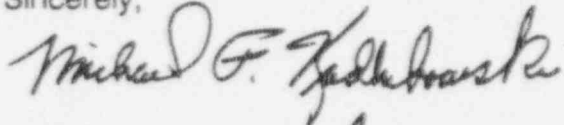
It has been determined that a total quantity of less than 5 gallons of oil was involved in this event, most of which was captured by absorbents at the 004 outfall structure and at the permanent oil booms in the discharge canal. A small amount, estimated at less than one pint, escaped the oil booms into the Waste Heat Treatment Facility (WHTF). Most of this oil was contained by a temporary boom and captured by absorbents. No oil from this release would be expected to reach the discharge to state waters from the WHTF to Lake Anna (Outfall 010). No evidence of environmental damage was found.

In order to preclude future recurrence of this incident, a procedure will be developed to provide instructions for the discharge of oily water to the oil/water separator system. Also, the manholes in the system have been clearly labeled to prevent introduction of wastewater to the wrong part of the system.

Mr. William L. Kregloe
October 8, 1992
Page 2

Should you desire additional information or have any questions about this matter, please contact Daniel James at (804) 273-2996.

Sincerely,



B. M. Marshall, P.E.
Manager
Water Quality



cc: U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW
Suite 2900
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Re: North Anna Units 1 & 2
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Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

July 9, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Virginia Water Control Board
Valley Regional Office
116 North Main Street
P. O. Box 268
Bridgewater, VA 22812

Gentlemen:

RE: NORTH ANNA POWER STATION - DISCHARGE MONITORING REPORT FOR
JUNE 1992

Attached is the original of the June 1992 Discharge Monitoring Report for North Anna Power Station.

This report is required by and prepared specifically for the Virginia Water Control Board. It presents truly, accurately, and completely the observed results of measurements and analyses required by the Virginia Water Control Board to be performed or submitted, but only such observed results. It is not intended as an assertion of the accuracy of any instrument, reading or analytical result, nor is it an endorsement of the suitability of any analytical or measurement procedure.

The measurements of specific pollutants and whole effluent toxicity were obtained by employing methods of analysis listed in this facility. Those measurements are subject to the accuracy limitations associated with those methods in the subject sample matrices at the concentrations present in the sample. All values above the Method Detection Limit but below the Limit of Quantitation by definition (52 Fed. Reg. 25, 699-700 July 8, 1987), do not provide adequate confidence as to the actual concentration appropriate Limit of Quantitation. All values reported below the Method Detection Limit, by definition 40 C.F.R. 136.2 (f) (1990), do not provide adequate confidence as to whether or not the constituent being measured is present and are recorded as "not detectable."

According to EPA, Method Detection Limits are not necessarily reproducible over time in a given laboratory, even when the same analytical procedures, instruments, and sample matrix are used. 50 Fed. Reg. 46,906 (November 13, 1985). All values reported above the Method Detection Limit but below a reasonable detection level calculated on an interlaboratory basis in the matrix of concern do not provide adequate confidence as to whether or not the constituent being measured is present and are recorded as "not detectable."

Virginia Water Control Board
July 9, 1992
Page ?

After a spill of hydrazine on June 13, 1992, and the actions taken in reaction to the spill, which were discussed in my followup letter of June 19, the station has experienced problems with pH control in the impacted sumps. On June 20, 1992, due to a high pH condition in the common and Unit 2 turbine building sumps, station personnel suspected that the discharge at internal outfall 004 may exceed the maximum permit limitation of 9.0 pH units. Although the two per month samples for the outfall had previously been taken, the discharge was sampled and a pH of 9.25 was measured. The sump pumps, normally on automatic operation, were switched to manual control and the sump pH corrected prior to further discharge.

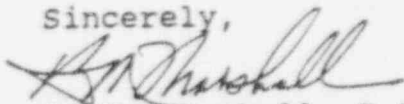
Following the excursion on June 20, and the corrective actions taken, pH measurements at the 004 discharge were back within the permit's limitations on June 21. However, the sump conditions were still in the higher end of the acceptable pH range and excursions of the 9.0 limit were experienced on June 27, 28 and 30. Measurements made are shown on the attachment to this letter. In response to the additional excursions, station personnel continued to monitor the sump pH and maintain manual control of the sump pumps, when high pH was measured in the sump, through the following days in order to provide pH correction of further discharges to acceptable values.

It appears that the high pH problems in the turbine building sumps may be due to residual effects of the earlier hydrazine spill. The causes of the high pH conditions in the sumps are undergoing further evaluation to determine if additional measures are needed to prevent recurrence of the problem. Should any changes in facilities or processes be necessary to ensure that no future excursions of the pH limitations occur, you will be notified. Meanwhile, monitoring of the sump pH, and pH correction prior to discharge if needed, will continue.

The pH excursions at Outfall 004 did not result in any detectable impact in the discharge canal, or downstream, and would not have adversely affected state waters or endangered public health. It is expected that the station will be able to control the pH of the discharge until the conditions in the sumps are stabilized, or until any additional remedial actions identified can be carried out.

We are including a copy of the Report of Operation for the sewage treatment facility (Outfall 011). If you have any questions or desire additional information concerning this submittal, please contact Mr. Daniel James at (804) 273-2996.

Sincerely,



B. M. Marshall, P.E.
Manager
Water Quality

Virginia Water Control Board
July 9, 1992
Page 3

cc: U.S. Nuclear Regulatory Commission
Docket No. 50-338/50-339
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Suite 2900
Atlanta, GA 30323

U.S. Nuclear Regulatory Commission
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Mr. M. S. Lesser
NRC Sr. Resident Inspector
North Anna Power Station

bc: Mr. J. P. O'Hanlon-IN 2E
Mr. R. F. Saunders-IN 2E
Mr. R. O. Enfinger-NA
Mr. J. A. Stall-NA
Mr. A. H. Stafford-NA
Mr. P. A. Kemp-NA
Mr. A. C. Cooke-NA
Mr. W. A. Thornton-IN 2E
Mr. M. F. Kadlubowski) 1-IN 1SE
Mr. D. L. James) *DL*
Ms. Y. A. Owens-IN 1SE

max 07082

Attachment to DMR letter.

Corrected pH at sump
prior to discharge

<u>Date</u>	<u>Time</u>	<u>pH at 004</u>	<u>Unit 2</u>	<u>Common</u>
6-20	1945	9.25		
	2035		8.88	
	2250			8.97
6-21	1535	8.96		
6-26	1430	8.91		
6-27	1019	9.12		
	1240		8.87	8.71
6-28	1040	9.22		
	1329			8.93
	1425		8.89	
	1450	9.02		
	1525	8.77		
6-30	0923	9.12		
	1720		8.56	
	2350			8.97