Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, Virginia 23060

VIRGINIA POWER

August 12, 1992

Mr. David Wright, Chief
Oil and Title III Section (3HW34)
U.S. Environmental Protection Agency
Region III
303 Methodist Building
11th and Chapline Streets
Wheeling, WV 26003

RE: NORTH ANNA POWER STATION; CHEMICAL RESPONSE QUESTIONNAIRE VA92329; JUNE 13, 1992; LOUISA COUNTY, MINERAL, VA

Dear Mr. Wright:

Attached is the completed chemical response questionnaire for the above referenced incident.

Should you desire additional information or have any questions in 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 St., 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

A001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Office of Superfund
Paula Curtin

Direct Dial (304) 234-0256
Mail Code 3HW34
Chemical Response

Virginia Power
P.O. Box 402
Mineral, VA 23117

JUL 9 1992

RE: VA92329 June 13, 1992 Louisa Cnty, Mineral, VA

Gentlemen

This office has received notification that your facility discharged oil or hazardous materials in harmful quantities in violation of Section 311(b)(3) of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. Section 1321(b)(3) as referenced above. Pursuant to Section 308(a). 33 U.S.C. Section 1318(a). you are hereby required to submit to EPA the following information. Any person who violates Section 308 is subject to a civil penalty of up to $10 000 per day of violation 33 U.S.C. Section 1319(d). Further, any person who willfully or negligently violates Section 308 may be punished by a fine of not less than $2,500 nor more than $25 000 per day of violation or by imprisonment for not more than one year or both.
33 U.S.C. Section 1319(c)(1).

1. Does the facility have a National Pollutant Discharge Elimination System (NPDES) Permit or permit application? (YES OR NO)

Yes.

2. If YES, state the Permit number or when the application was filed.

VPDES Permit No. VA0052451.

3. List the time, date, and duration of the discharge incident

Spill occurred June 13, 1992, between 0615 to 0735 hours.

4. List the time and date of the discovery of the discharge.

Spill was discovered at 0735 hours on June 13, 1992.

5. Description of the facility, the vehicle, outfall, tanks, or containers from which the material was discharged.

Spill originated from an overfilled chemical addition tank inside the turbine building at the North Anna Power Station.

6. List the name and address of the owner/operator of the vehicle or facility described in question 5.

Virginia Power, 5000 Dominion Blvd., Glen Allen, VA 23060

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

7. List the location of the discharge, including county and state.

North Anna Power Station , Rt. 700, Mineral, Louisa County, Virginia

8. If the material was discharged from an outfall, state whether the outfall was covered by an NPDES permit issued pursuant to Section 402 of the Act.

Internal Outfall 004, VPDES Permit No. VA0052451.

9. List the types of material stored and the total storage capacity of the facility, and describe the storage units at the facility, e.g., above ground tanks and underground tanks.

See attachment.

10. In pounds, list the quantity of undiluted material lost.

By "worst case" calculations, 161 pounds of hydrazine spilled. Not all was lost through the discharge but actual amounts could not be determined.

Some of the spilled material was contained in a sump and the piping and was neutralized prior to discharge.

11. List the quantity, concentration and name of each material discharged, and the method by which the concentration was measured or estimated.

At most, 161 pounds of hydrazine in a 35% solution spilled. Known concentration, quantity calculated on basis of approximately 57 gallons spilled.

12. State the solubility and specific gravity of each material discharged.

Completely soluble in water, specific gravity = 1.02.

13. Description and location of any water body which the material entered.

Some of the spilled hydrazine discharged, via Outfall 004, to the station's discharge canal, which discharges to the Waste Heat Treatment Facility (WHTF). The WHTF ultimately discharges to Lake Anna.

14. State the quantity of material entering the water described in question 13.

An undetermined amount of hydrazine less than 161 pounds. See #10 and #11 above.

15. List the name, address, telephone number, and affiliation of any and all persons making the observations in questions 9, 10, 11, 12, 13 and 14.

D. L. James, Water Quality Dept., Va. Power, 5000 Dominion Blvd., Glen Allen, VA 23060. (804) 273-2996

A. C. Cooke, North Anna Power Station, Va. Power, P.O. Box 402, Mineral, VA 23117. (703) 894-2856

16. State the flow in cubic feet per second of the water body described in question 13. If there is no guage station in the vicinity, please estimate the flow.

Discharge canal flow rate = approximately 4,000 cfs.

17. Was the water described above in question 13 at the time of the spill a tributary of, or physically connected to a hydrological or creek system? (YES OR NO)

Yes.

18. If YES, describe or name the waterways.

See #13 above.

19. Describe any observed damage to animal life or vegetation.

None.

20. State the NPDES or State wastewater discharge permit conditions that were violated by the spill.

None.

21. Identify the effect of the spill on any water supply and give details if available (e.g., shutdown of public or private water supply).

None.

22. Give a short but complete summary of the circumstances of the discharge (e.g., pump failure, by-pass of treatment system).

Accidental overfilling of a chemical addition tank. Overfill flowed into the Unit 2 Turbine Building sump which was being pumped through Outfall 004, as allowed by the VPDES permit.

23. Provide a description of all procedures used to contain any spill of material from any of the tanks, tank cars and tank trucks listed in response to question 5. This description should indicate which tanks, tank cars, and tank trucks are protected by dikes, the amount of material that can be contained by each dike and the number of tanks, tank cars, and tank trucks protected by each dike.

See attachment.

24. Indicate the material used to construct each dike and condition of each dike listed in question 23.

See attachment.

25. Describe the steps taken to contain and clean up the spill material and to mitigate any environmental damage and any actions taken or planned to prevent recurrence of the incident.

Sump pump was secured and sump contents neutralized prior to further discharge. Increased surveillance of tank filling operation and the equipment involved has been implemented to prevent recurrence.

26. List the name, address, telephone number, and affiliation of any and all persons who were on the scene during the incident or during clean up operations.

Jim Crossman, NAPS, Operations, (703) 894-2004.

Bob Lamberson, NAPS, Chemistry, (703) 894-2802.

Carter Cooke, NAPS, Environmental Compliance, (703) 894-2856.

~~All of the above!~~

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Virginia Power
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None.

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Bob Lamberson, NAPS, Chemistry, (703) 894-2802.

Carter Cooke, NAPS, Environmental Compliance, (703) 894-2856.

All of the above:

North Anna Power Station
Virginia Power
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27. List the federal and state agencies if any, to which the owner or operator reported the discharge, the dates on which the reports were made, and the name and title of the person(s) who made the reports.

AGENCIES	DATE	PERSON(S) MAKING REPORT
National Response Center	6/13/92	Carter Cooke, Environmental Compliance Coord.
Va. Dept. of Emergency Services	6/13/92	Carter Cooke, Environ. Comp. Coord.
Louisa County LEPC	6/13/92	Carter Cooke, Environmental Compliance Coord.
Nuclear Regulatory Commission	6/13/92	Jim Crossman, Operations Supervisor.

28. List the state, federal and local officials who were on scene during the spill or at the clean up.

None.

29. Name and title of the person(s) responsible for providing the above information and a certification of its truth and accuracy.

A. Carter Cooke, Environmental Compliance Coordinator.

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

30. List any other information you wish to bring to the attention of the federal government.

No unpermitted release to the environment occurred. Copy of followup letter to the SERC attached.

The above information should be mailed to:

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III
OIL AND TITLE III SECTION (3HW34)
303 METHODIST BUILDING
11TH & CHAPLINE STREETS
WHEELING, WEST VIRGINIA 26003

→ AUGUST 14 PER MS. CURTIN

If you cannot answer this letter by July 30, 1992, or if there are any questions on this matter, you may call Paula Curtin at (304) 234-0256.

Sincerely,

David P. Wright, Chief
Oil and Title III Section

Signature: _____

I hereby certify the above to be true and accurate to the best of my knowledge.

This information request is not subject to review by the Director of OMB pursuant to the requirements of the Paperwork Reduction act, 44 U.S.C. Section 3507.

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5.0 DESCRIPTION OF THE FACILITY

5.1 General

The North Anna Power Station is located in Louisa County, Virginia on the southern shore of Lake Anna. The Station consists of two pressurized water reactors with associated steam side components and an adjacent construction site. Cooling water for the power generating facility is drawn from Lake Anna and then discharged to the Waste Heat Treatment Facility (WHTF). The WHTF consists of a series of lagoons. Flow from the WHTF to Lake Anna is via a submerged jet at the Circulating Water Outlet Structure.

The Station has oil storage facilities, as described in the following sections. Loss of oil from storage facilities could result in oil reaching Lake Anna or the WHTF. Oil reaching the WHTF would normally be retained in the facility because of the submerged discharge to Lake Anna.

This plan is for the power generating facility and the associated construction site.

5.2 Fuel Oil System

The Fuel Oil System contains most of the fuel oil stored and handled at the plant site. This system consist of one 5,000 bbl fuel oil storage tank, two 50,000 gallon underground storage tanks and four 1,000 gallon storage day tanks. There are ten ready and standby fuel oil pumps located in the oil pump house.

All of the fuel oil tanks and pumps with the exception of the 5,000 bbl fuel oil storage tank are located either underground or in seismically designed structures which also protect the equipment from conceivable tornado generated missiles. Underground fuel oil lines are coated and wrapped to protect against corrosion.

The 5,000 bbl above ground fuel oil tank is enclosed by a concrete dike which is sized to contain the capacity of the tank. A drain dump inside of the diked area is connected to the yard drainage system via a Post Indication Valve which is kept closed. Storm water trapped inside the dike generally seeps into the ground. However, the Post Indication Valve can be opened to allow uncontaminated storm water to enter the yard drainage system. If the storm water is contaminated with oil, the water is pumped into a tank truck and treated in the oil separator or oil-absorbent mats are used to absorb the oil from the waste water, prior to discharge.

Two sump pits with drain pumps and 300 gallon drain tanks are located in the oil pump house to collect any oil that could be spilled. When the drain tanks are partially full, an alarm signal is transmitted to the control room. The drain tanks are pumped out to a tank truck for final disposal. Pumpout of the drain tanks should occur less than once per year.

5.2 Fuel Oil System (continued)

The fuel oil unloading area is equipped with a deep sump pit which collects runoff and oil spill from the truck unloading area. The flow from the deep sump pit is routed to the oil separator (see Subsection 5.5). A qualified Virginia Power operator will observe the truck and driver at all times and ensure that, in the event of a oil spill, appropriate steps are taken to contain, remove, and prevent further discharges. Also, signs will be posted with the following notice: "Notice to Truckers: Check to be sure all valves are closed and hoses disconnected before moving your truck away."

Additionally, there are two above ground tanks associated with the five protection diesel generators and a 500 gallon below ground tank for the security emergency diesel generator located inside the protected area.

5.3 Lubrication Oil System

The lubrication oil system is located in the Turbine Building. It supplies lubricating oil for the turbine-generator bearings, high pressure oil for turbine control and seal oil for the generator. The lubrication system has two 16,000 gallon storage tanks for both generating units and one 14,000 gallon lube oil reservoir per turbine generator. Each unit has a lube oil conditioner with a storage capacity of 2,000 gallons.

The two 16,000 gallon tanks are enclosed in a fire-proof room which can contain the entire contents of the tanks. There are no drains in this area. The 14,000 gallon reservoirs plus a 200 gallon electrohydraulic oil reservoir are located inside a concrete dike which can contain the entire contents of the reservoir. The diked area has a floor drain which is controlled by a normally closed valve. The drain discharges to the lower level of the turbine building. Any oil allowed to drain from this area would be caught in barrels and transferred to the waste oil storage area. The oil conditioner is surrounded by a sump. The sump has no drain and can accumulate oil spillage and the entire contents of the oil conditioner in case of rupture.

Lubricating oil is delivered to the Station by tank trucks. The hose connections are located inside of the Turbine Building. Any oil spilled inside the Turbine Building will go to one of three sumps (see Subsection 5.4) and eventually to the oil separator (see Subsection 5.5).

5.4 Turbine Building and Yard Drainage System

The Turbine Building floor drains for Units 1 and 2 drain to one of three sumps. Each sump is equipped with two small skimmer pumps (100 gpm) that pump to the oil separator and three large pumps (1300 gpm) that pump directly to Lake Anna. Under normal operating conditions, the large pumps are not used and all flow goes to the oil separator. However, under certain conditions the smaller pumps cannot handle the flow and the larger pumps must be used. The level switches of the large pumps are set to shutdown the pumps before a low level is reached, thereby preventing oil that is floating on the surface from being pumped to Lake Anna.

In the case of an oil spill in the Turbine Building, the large pumps would be shutdown. The four diesel-generator rooms and auxiliary boiler room floor drains are routed to the No. 2 Turbine Building sump. Each diesel-generator room has curbed entrances to ensure that any leaking oil is collected by the floor drains.

The yard drain system on the east and north sides of the turbine building drain to the main lake on either side of the screenwell structure. The yard drainage system for the south side of the Station (containment side) drain into the WHTF adjacent to the Circulating Water discharge point. The primary sources of oil contaminated drainage into the yard drainage system are the Service Building Warehouse, Vacuum Priming Pump House, Intake Structure Control House and the Auxiliary Feedwater Pump Houses for Units 1 and 2.

5.5 Oil Separator

A corrugated plate oil separator is installed in the ground near the Turbine Building just north of the fuel oil unloading area. The oil separator is designed to remove all oil droplets 70 microns and larger at a flow rate of 200 gpm from waste water containing oil with a specific gravity of 0.95 at a temperature of 70°F.

The primary sources of oily water to the oil separator are the turbine building sumps mentioned in Subsection 5.4 and the floor drains in the machine shop.

5.6 Gasoline and Diesel Fuel

All gasoline used at North Anna is unleaded and is stored at two locations: 1) outside the security fence adjacent to the Administrative Annex (Warehouse #2) in two underground tanks (3,000 gallon and 1,000), and 2) in front of the Maintenance Garage in a 10,000 gallon fiberglass tank.

All diesel fuel used on site is stored in a 10,000 gallon fiberglass underground tank in front of the Maintenance Garage.

5.7 Waste Oil Storage Facilities

Any waste oil reclaimed by Virginia Power is placed in storage. When enough oil is accumulated, the reclaimed oil is sold to vendors. There are three facilities for storage of waste oil.

The reclaimed oil from the Station operations is stored in a 1,500 gallon above ground tank. This tank is located inside the oil storage building and has a concrete curb around it to contain any spillage.

The reclaimed oil from the Maintenance Garage is stored in a 550 gallon underground waste oil storage tank adjacent to the garage.

Waste oil separated from the Waste oil Separator is transferred to a 5,800 gallon underground waste oil storage tank. This tank is located inside the fence adjacent to the Fuel Oil Pumping Station.

At each location, the volume of waste oil is monitored and provisions are made to ensure adequate storage capacity is available.

5.8 Transformers

There are several groups of transformers located at North Anna. All of these transformers were inspected during the summer of 1981 and it was found that none of them would be considered PCB.

There are four reserve Station transformers located at the cooling water intake structure. Three of these are in use, the fourth one is a spare. Each transformer is rated at 18 MVA and the three operations units are enclosed in a concrete container to prevent accidental spillage.

There are three main Station transformers (general step-up transformers) plus one spare, for each generating unit. Each transformer is rated at 330 MVA and each operational unit is enclosed in a concrete container to prevent accidental spills.

Also there are three Station service transformers for each generating unit, rated at 15 MVA each that are also enclosed in concrete containers to prevent spills.

Additionally, there are transformers located in the switchyard. These units are located away from the lake and are placed on a gravel cover as is found in most switchyards.

5.8 Transformers (continued)

Under normal conditions, personnel from Virginia Power's Central Division inspect and perform all maintenance on all transformers. In the event of an emergency that could lead to a spill, the Station personnel will undertake emergency actions to contain any spill, prevent damage to equipment and the environment, and notify the Central Division of the situation.

Any permanent or long-range actions will be carried out by personnel from the Central Division.

5.9 Main Dam Emergency Diesel Fuel Oil Tank

The two above ground 750 gallon main dam emergency fuel oil tanks are enclosed by a concrete dike which is sized to contain the capacity of both tanks. There are no floor drains in this area; therefore, the oil cannot reach any storm drains. The floor is indented in one corner so that a sump pump could be placed in the area to remove all of the oil in the event the tanks loose their integrity.

5.10 Contaminated Oil

Oil which has become radioactively contaminated is temporarily stored in the Clarifier Building. This oil is stored in 55 gallon drums until it can be processed by Health Physics. The floor is sloped and contains drains so that any leakage will be treated as a radioactively contaminated liquid.

5.11 Temporary Fuel or Oil Storage

Temporary tanks, including tanker trucks, may be used from time to time to provide supplemental fuel or oil storage at the Station. Normal gasoline and fuel oil deliveries are not included.

6.0 SUMMARY TABLE OF THE LOCATION OF OILS

LOCATION OF OILS - NORTH ANNA POWER STATION OPERATIONS

FUEL OIL - NO. 2

1	5,000 bbl storage tank (210,000 gal)	Above ground
2	50,000 gallon storage tank	Below ground
4	1,000 gallon day tanks	Diesel Generator Room
	Maximum Storage Capacity	314,000 gallons
	Average Daily Usage	6,000 gallons
	Average Daily Received	6,000 gallons
1	250 gallon fire pump-tank	Within Service water pump house
1	270 gallon fire pump-tank	Within Warehouse No. 5 pump house
1	500 gallon security tank	Below ground

LUBRICATING OIL

2	16,000 gallon storage tank	Within Turbine Building
2	14,000 gallon storage tank	Within Turbine Building
2	2,000 gallon storage tank	Within Turbine Building
2	200 gallon storage tank	Within Turbine Building
	Maximum Storage Capacity	64,000 gallons

GASOLINE (Outside security fence—Adjacent to Admin Annex)

1	3,000 gallon tank (regular)	Below ground
1	1,000 gallon tank (unleaded) (Outside Maintenance Garage)	Below ground
1	10,000 gallon tank (unleaded)	Below ground

DIESEL (Outside Maintenance Garage)

1	10,000 gallon tank	Below ground

WASTE OIL

1	5,800 gallon tank (oil separator)	Below ground
1	1,500 gallon tank (oil storage building)	Above ground
1	550 gallon tank (Maintenance Garage)	Below ground

TRANSFORMERS

4	18 MVA Station transformers	Cooling water intake structure
8	330 MVA Main Station transformers	North side of Turbine Building
6	15 MVA Station service transformers	North side of Turbine Building

CONTAMINATED OIL

55 gallon drums .....Stored above ground in the Clarifier Building

LOCATION OF OILS - NORTH ANNA MAIN DAM

FUEL OIL - DIESEL

2 750 gallon tank ..... Above ground

7.0 OIL SPILL ALERT, CONTAINMENT, AND CLEANUP

7.1 Notification

In the event of an oil spill or oil determination of any kind on Lake Anna or the WHTF, the Operations Shift Supervisor will be notified immediately. He will attempt to locate and stop the oil leak if it is determined that the oil came from the Station. The Shift Supervisor will organize a task force to contain and cleanup the spill, contact all necessary Company personnel, and initiate 0-AP-23, Oil Spill.

The Shift Supervisor, or Designee, is responsible for coordinating any cleanup operation and completing a Station Deviation Report, whether the spill originates from the operating Station or the Nuclear Site Services area.

One of the following Station personnel should be notified immediately should a spill occur:

- Superintendent Operations
- Assistant Station Manager O&M
- Station Manager

Notify the Station Environmental Compliance Coordinator (Carter Cooke), who will notify one of the following Virginia Power Water Quality personnel within 12 hours of any reported oil spill.

	Home Number
D. R. James	(804) 744-4129
R.L. Bilyead	(804) 740-0546
M.F. Kadlubowski	(804) 360-3996
B. M. Marshall	(804) 360-5147

Labor Department personnel have been trained on how to clean up oil spills on the lake or WHTF.

Labor Foreman (e.g. R. Christmas, S. Smith)

7.2 Containment and Cleanup of Oil on Water

7.2.1 Containment

At this point, immediate action is imperative. If practical, restrict the oil flow, such as blocking a hole in a fuel line, etc. Contain the spill by any or all of the following:

a. Construct an earth dam to contain the spill.

b. Dig a pit to collect the oil.

c. Dam up any flows in ditches, etc.

d. Apply absorbent material (straw, rags, sawdust, kitty litter etc.) A supply of absorbent material will be purchased and maintained at the Station.

e. If the oil has reached a flowing stream, containment should be effected by use of floating booms or dams constructed with wire and bales of straw.

Appendix A describes and illustrates containment and diversionary devices.

7.2.2 Oil Spill Cleanup Operations

Oil pumps should be used to retrieve the surface oil. Saturated sorbents, contaminated gravel and earth should be collected and removed.

7.2.3 Contractors

If Station personnel should require outside assistance in spill cleanup, one of the following contractors should be contacted:

Industrial Marine Service, Inc. (24 Hour Emergency Service with answering recorder)	Ashland, Virginia 804-752-2351
O.H. Materials Corp. (24 Hour Emergency Service)	Richmond, Virginia 804-262-0079 800-537-9540
Environmental Options, Inc. (24 hour Emergency Service)	Richmond, Virginia 804-264-4797

7.3 Oil Containment and Cleanup Material and Equipment

7.3.1 Oil Containment Boom

A permanent oil boom is deployed near the end of the Discharge Canal to prevent any spills from reaching the Waste Heat Treatment Facility. The 250 foot boom has 10 inch freeboard and 14 inch draft. The boom is placed at an angle of about 60 degrees from the side of the canal. Another similar boom is deployed in a semicircle around the discharge canal to contain the oil spills from this source.

7.3.2 Oil Spill Response Boom

The Station has three 50 feet sections of Slick Bar Boom. One section of boom is stored in the maintenance storage shed at the end of the discharge canal. Two sections are kept in the spill response trailer.

7.3.3 Environmental Spill Response Trailer

The Maintenance Department has a spill response trailer that is used by maintenance personnel located in the Environmental Boat shed. The following material is kept on the trailer, periodically inspected and replaced when necessary.

- 3 - Cases sorbent sweeps
- 5 - Cases 18" x 18" pads
- 3 - Cases 36" x 36" pads
- 1 - Box "pigs"
- 1 - Bag particulate
- 1 - Case trash bags
- 2 - Pair Boots
- 2 - Hip Waders
- 1 - Dip Net
- 100 - Slick Bar Boom

7.3.4 Oil Spill Response Boat

Several boats are available for use by Station personnel for oil spill containment and cleanup. The boats are kept at the Environmental Lab. The keys for the boats are normally available in the lab. The key to the lab can be obtained from Security or the Environmental Compliance Coordinator.

7.3.5 Oil Sorbent Materials

A supply of oil sorbent material is kept at the Maintenance storage shed at the end of the discharge canal for use in containment and cleanup of oil spills.

Sorbent	Application	Amount in Stock
Particulate Sorbent	Oil on floors, water or soil	5 bags
Sorbent pads	Oily wipes, drip pads, oil on water	8 bags
Sorbent sweeps	Oil on water	3 - 100'
Sorbent blanket	Oil on water	Available from storeroom
Jet spray pump with hose	To contain oil on water	1
Slick Bar Boom	To contain oil on water	1 - 50'

8.0 INSPECTIONS, RECORDS, AND OTHER NOTIFICATIONS

8.1 Inspection and Records of the Oil Handling and Storage System

The fuel oil handling and storage system is inspected each day by the Operations Department and documented on the Station Logs. Tank levels are continuously monitored by alarms in the Control Room to warn Operations of high levels. The Station Log is kept on file for the life of the plant.

4.0 GUIDELINES

4.1 Action to be Taken by Response Team

A. Ensure proper protective clothing is worn.
B. Stop the source of release.
C. If possible, restrict the path of discharge.
D. Contain the release.

4.2 Cleanup

Cleanup instructions or treatment methods will be given after evaluation by both Control Room Shift Supervisor and Chemistry Department as to the type and amount of material released.

4.3 Cleanup Material Locations

Cleanup materials are located in Warehouse #5, oil storage areas, and spill response trailer housed at the old Environmental Laboratory.

4.4 Chemical Storage and Use Areas

A. **Unit 1 and 2 Turbine Buildings**

1. Reportable hazardous materials normally in use: Sodium Hydroxide (NaOH),500gal tank presently out of service; Hydrazine (N_2H_4-35%)-300gal bin, Morpholine (C_4H_9NO)-300gal bin, Ammonium Hydroxide (NH_3-28%)-55gal drum, and Boric Acid (BH_3O_3)-50lb bags,all at the chemical addition station. Also, 200lbs of H-900 bromine tablets in a brominator tank, a 1,000gal. CL-707A zinc tank with concrete berm, 5000gal. Pol-E-Z tank, and a 3,000gal PCL-713 Phosphate tank with concrete berm.
2. If a chemical spill occurs in the Turbine Building, the sump pumps will be placed in the "off" position to allow time for cleanup or neutralization before discharge to the WHTF via the oil separator.
3. If 1-HV-FL-8, 1-HV-FL-9, 2-HV-FL-8, or 2-HV-FL-9 is in use during any period in which the chemical release occurred, test the charcoal filter(s) for degradation by performing 1-PT-76.10A and/or 1-PT-76.10B and/or 2-PT-76.10B and/or 2-PT-76.10A, respectively.

B. **Warehouse #7--Chemical Storage Area**
1. Reportable hazardous materials normally stored: Sodium Hypochlorite (NaOCl), Ammonium Hydroxide (28%), Calcium Hypochlorite (Ca[OCl]2), Sodium Hydroxide (12&25%), Sodium Nitrite (NaNO2), Hydrazine (35%), Morphaline, Boric Acid (Borax), H-380 microbiocide, H-900 microbiocide,.
2. As there are no floor drains in Warehouse #7, the possibility of these substances being released offsite is remote.

C. **Units 1 and 2 Sodium Hydroxide Spray Addition Tanks 1 and 2-QS-TK-2**
1. Reportable hazardous substance stored: 12 % Sodium Hydroxide.
2. Although the possibility of a reportable release is remote, it should still be noted.

D. **Chemical Addition Building**
1. Reportable hazardous substances stored: 4,000gal. tank of TRC-256, 2,000gal. tank of H-130, 2,000gal. tank of CL-36 and a brominator tank containing 200lbs. of pellets.
2. These tanks are enclosed in a concrete floored building, contained by a concrete berm with a sump which will automatically pump into a 4,000 gallon waste tank, also enclosed in the berm.

E. **Beside Bering Cooling Tower**
1. Reportable hazardous substances stored: 1,000gal. tank of H-510.
2. This tank is contained by a concrete berm which can hold 1,500gal.

REPORTABLE QUANTITIES--HAZARDOUS SUBSTANCE RELEASES

Chemical	Reportable Quantity	Amount On Hand	Packaging	Location
Ammonium Hydroxide	1,000lbs	2706lbs	55gal drum	WH#7,Turb. Bldg.
Calcium Hypochlorite	100lbs	1200lbs	50lb drum	WH#7
Sodium Hydroxide(25%)	1,000lbs	2177lbs	55gal drum	WH#7,Turb. Bldg.
Sodium Hypochlorite(15%)	100lbs	1660lbs	55gal drum	Wh#7,STP
Sodium Nitrite	100lbs	600lbs	100lb drum	WH#7
Hydrazine	1lb	2,700lbs	300gal bin	WH#7,Turb. Bldg.
Morphaline	1,000lbs	7,568lbs	300gal bin	WH#7,Turb Bldg.
Boric Acid	1,000lbs	5,000lbs	50lb bag	WH#7,Turb. Bldg.

June 19, 1992

Ms. Cathy Harris
SARA Title III Program
Virginia Dept. of Waste Management
James Monroe Building, 14th Floor
101 North 14th Street
Richmond, VA 23219

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

Dear Ms. Harris:

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 accidently 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.

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 his 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