

DCS MS-016

MAY 23 1984

Docket Nos. 50-338
and 50-339

DISTRIBUTION:

~~Docket File~~
NRC PDR
L PDR
SECY
ORB#3 Rdg
DEisenhut
OELD
LJHarmon
EJordan
JNGrace
LTremper

PMKretuzer-3
LEngle
Gray File +4
HDenton
RDiggs
OPA, CMiles
ACRS-10
DBrinkman
WJones
TBarnhart-8

Mr. W. L. Stewart
Vice President - Nuclear Operations
Virginia Electric and Power Company
Post Office Box 26666
Richmond, Virginia 23261

Dear Mr. Stewart:

The Commission has issued the enclosed Amendment Nos. 57 and 39 to Facility Operating License No. NPF-4 and No. NPF-7 for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The amendments revise the Technical Specifications (TS) in response to your letter dated September 16, 1983. The amendments are effective within 30 days from the date of issuance.

The amendments revise the NA-1&2 TS 3/4.7.4, 3/4.7.12, and 3/4.7.13. TS 3/4.7.4 has been revised to terminate the requirement to measure the turbidity and suspended solids in the outflow from the drain system under the service water pumphouse. TS 3/4.7.12 has been revised to decrease the frequency of settlement monitoring to once per 6 months at the service water pumphouse. TS 3/4.7.13 has been revised to decrease the frequency of monitoring of the piezometers and provide a consistent uniform six month monitoring frequency for all groundwater levels and flow measurements. The changes also remove the action item requiring a five year summary report.

In addition, the issuance of this amendment denotes NRC approval of your five year surveillance "Report on Monitoring of Settlement and Groundwater Level at Service Water Reservoir", NA-1&2, submitted to the NRC by your letter dated February 24, 1984.

A copy of the Safety Evaluation is enclosed. The notice of issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

Original signed by:

Leon B. Engle, Project Manager
Operating Reactors Branch #3
Division of Licensing

Enclosure:

1. Amendment No. 57 to NPF-4
2. Amendment No. 39 to NPF-7
3. Safety Evaluation

cc: See next page

ORB#3:DL
PMKretuzer
5/7/84

ORB#3:DL
LEngle/pn
5/7/84

ORB#3:DL
JRMiller
5/8/84

OELD
5/15/84

AD:DL
GCLainas
5/22/84

8406080011 840523
PDR ADOCK 05000338
PDR

Virginia Electric and Power Company

cc:

Richard M. Foster, Esquire
Musick, Williamson, Schwartz,
Leavenworth & Cope, P.C.
P. O. Box 4579
Boulder, Colorado 80306

Michael W. Maupin, Esquire
Hunton, Williams, Gay and Gibson
P. O. Box 1535
Richmond, Virginia 23212

Mr. Paul W. Purdom
Environmental Studies Institute
Drexel University
32nd and Chestnut Streets
Philadelphia, Pennsylvania 19104

Atomic Safety and Licensing Appeal
Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Ellyn R. Weiss, Esquire
Sheldon, Harman, Roisman and Weiss
1725 I Street, N.W., Suite 506
Washington, DC 20006

Mr. E. W. Harrell
P. O. Box 402
Mineral, Virginia 23117

Mr. Anthony Gambardella
Office of the Attorney General
11 South 12th Street - Room 308
Richmond, Virginia 23219

Resident Inspector/North Anna
c/o U.S. NRC
Senior Resident Inspector
Route 2, Box 78
Mineral, Virginia 23117

Mr. J. H. Ferguson
Executive Vice President - Power
Virginia Electric and Power Co.
Post Office Box 26666
Richmond, Virginia 23261

Mrs. Margaret Dietrich
Route 2, Box 568
Gordonsville, Virginia 22042

Mr. W. T. Lough
Virginia Corporation Commission
Division of Energy Regulation
P. O. Box 1197
Richmond, Virginia 23209

U.S. Environmental Protection Agency
Region III Office
ATTN: Regional Radiation
Representative
Curtis Building
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Regional Administrator
Nuclear Regulatory Commission
Region II
Office of Executive Director
for Operations
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Old Dominion Electric Cooperative
c/o Executive Vice President
Innsbrook Corporate Center
4222 Cox Road, Suite 102
Glen Allen, Virginia 23060

Mr. Richard C. Klepper
Board of Supervisors
Louisa County Courthouse
P. O. Box 27
Louisa, Virginia 23093



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 57
License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated September 16, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

B406080016 B40523
PDR ADOCK 05000338
PDR
P

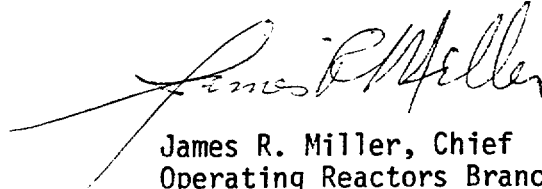
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 57, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 23, 1984

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO.57 TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contains vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Page

3/4 7-18
3/4 7-70
3/4 7-72
3/4 7-73
3/4 7-74

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SUBSYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water subsystems (shared with Unit 2) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water subsystem OPERABLE, restore at least two subsystems to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two component cooling water subsystems shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two service water loops (shared with Unit 2) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 6 months by measurement of the movement of the pumphouse and wing walls.
- c. At least once per 18 months during shutdown, by:
 1. Verifying that each automatic valve servicing safety related equipment actuates to its correct position on a safety injection signal.
 2. Verifying that each containment isolation valve actuates to its correct position on a containment high-high signal.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

1. With a half-life greater than 30 days (excluding Hydrogen 3), and
 2. In any form other than gas.
- b. Stored sources not in use - Each sealed source and fission detector shall be tested prior to use or transfer to another licensee unless tested within the previous six months. Sealed sources and fission detectors transferred without a certificate indicating the last test date shall be tested prior to being placed into use.
- c. Startup sources and fission detectors - Each sealed startup source and fission detector shall be tested within 31 days prior to being subjected to core flux or installed in the core and following repair or maintenance to the source.

4.7.11.1.3 Reports - A Special Report shall be prepared and submitted to the Commission on an annual basis if sealed source or fission detector leakage tests reveal the presence of ≥ 0.005 microcuries of removable contamination.

PLANT SYSTEMS

3/4.7.12 SETTLEMENT OF CLASS 1 STRUCTURES

LIMITING CONDITION FOR OPERATION

3.7.12.1 The total settlement of each Class 1 structure or the differential settlement between Class 1 structures shall not exceed the allowable values of Table 3.7-5.

APPLICABILITY: All MODES

ACTION:

- a. With either the total settlement of any structure or the differential settlement of any structures exceeding 75 percent of the allowable settlement, conduct an engineering review of field conditions and evaluate the consequences of additional settlement. Submit a special report to the Commission pursuant to Specification 6.9.2 within 60 days, containing the results of the investigation, the evaluation of existing and possible continued settlement and the remedial action to be taken if any, including the date of the next survey.
- b. With the total settlement of any structure or the differential settlement of any two structures exceeding the allowable settlement value of Table 3.7-5, be in at least HOT STANDBY within 6 hours and COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.12.1 The total settlement of each Class 1 structure or the differential settlement between Class 1 structures listed in Table 3.7-5 shall be determined to the nearest 0.01 foot by measurement and calculation at least once per 6 months.

TABLE 3.7-5

ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

SETTLEMENT POINT	STRUCTURE	SETTLEMENT POINT	STRUCTURE/COMPONENT	ALLOWABLE TOTAL SETTLEMENT* (FEET)	ALLOWABLE DIFFERENTIAL SETTLEMENT* (FEET)
130	Containment Unit 1	223	Fuel Building	N/A	0.12
130	Containment Unit 1	129	Auxiliary Building	N/A	0.12
143	Containment Unit 1	142	Unit 1 Safeguards Area	N/A	0.04
144	Containment Unit 1	145	Unit 1 Safeguards Area	N/A	0.04
149	Containment Unit 1	239	Unit 1 Main Steam Valve House	N/A	0.12
144	Containment Unit 1	243,199,132	Service Building	N/A	0.12
146	Safeguards Unit 1	239	Unit 1 Main Steam Valve House	N/A	0.07
128	Auxiliary Building	238	Unit 1 Main Steam Valve House	N/A	0.08
129	Auxiliary Building	239	Unit 1 Main Steam Valve House	N/A	0.08
129	Auxiliary Building	223	Fuel Building	N/A	0.05
123	Auxiliary Building	224	Fuel Building	N/A	0.05
122	Auxiliary Building	119	Service Building Tunnel	N/A	0.07
7 or 10	Service Water Pump House	15,16, 17, 18	North Side of Expansion Joint Service Water Piping at SWPH	N/A	0.22 from 7/77
243,132	Service Building (E-5, E-6)	238	Unit 1 Main Steam Valve House	N/A	0.04
117	**Service Building (E-14)	113	Unit 2 Main Steam Valve House	N/A	0.03 from 7/77
222	Auxiliary Feedwater Pump House - Unit 1	248	Pipe Tunnel	N/A	0.12

TABLE 3.7-5

ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

<u>SETTLEMENT POINT</u>	<u>STRUCTURE</u>	<u>SETTLEMENT POINT</u>	<u>STRUCTURE/COMPONENT</u>	<u>ALLOWABLE TOTAL SETTLEMENT* (FEET)</u>	<u>ALLOWABLE DIFFERENTIAL SETTLEMENT* (FEET)</u>
15,16,17, 18	North Side of Expansion Joint Service Water Piping at SWPH			0.22 from 8/78	N/A
228	Decontamination Building	250	Pipe Tunnel	N/A	0.06
226	Fuel Building	251	Waste Gas Decay Tank Enclosure	N/A	0.06
8	Service Water Pump House	H-569,H-584	Pipe Hanger in Reservoir	N/A	0.17
114	Service Building (E-17)			0.09	N/A
141	Safeguards Area - Unit 1	253	Unit 1 - Casing Cooling Bldg.	N/A	0.12 from 2/79
158	***Turbine Building (B-9 1/2)			0.06	N/A
245, 246	Fuel Oil Pump House			0.03	N/A
206, 207, 208, 209	Boron Recovery Tank Dike			0.03	N/A
204	Circulating Water Intake Structure			0.15	N/A

*Unless otherwise indicated, allowable settlements are from baseline elevations established in May 1976 or reference elevations corrected to the May 1976 survey.

**Critical differential settlement is downward movement of Point 117 with respect to Point 113.

***Not Class 1 structure, but settlements affects Class 1 pipeline.

PLANT SYSTEMS

3/4.7.13 GROUNDWATER LEVEL-SERVICE WATER RESERVOIR

LIMITING CONDITION FOR OPERATION

3.7.13 The groundwater level of the service water reservoir shall not exceed the elevation at the locations listed in Table 3.7-6. The flow of groundwater from the drains beneath the pumphouse shall not exceed the values given in Table 3.7-6.

APPLICABILITY: All MODES.

ACTION:

With the groundwater level of the service water reservoir or the groundwater flow rate exceeding any of the limits of Table 3.7-6, an engineering evaluation shall be performed by a Licensed Civil Engineer to determine the cause of the high ground water or flow rates and the influence on the stability of the service water reservoir and pumphouse. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days, containing the results of the evaluation and any corrective action determined to be necessary.

SURVEILLANCE REQUIREMENTS

4.7.13.1 The groundwater level within the dike of the service water reservoir as determined by monitoring the piezometers shall be within limits presented in Table 3.7-6. Measurements shall be performed at least once per 6 months. The groundwater flow rate shall be determined by measurements at the drain outlet gallery. Flow rate measurements shall be taken at the same frequency as the piezometers (that is once per every 6 months) and the flow rate shall not exceed that established in Table 3.7-6. A visual inspection of the clarity of the outflow from each drain shall be performed in conjunction with the flow monitoring effort.

TABLE 3.7-6

ALLOWABLE GROUNDWATER LEVELS - SERVICE WATER RESERVOIR

<u>PIEZOMETER NO.</u>	<u>PIEZOMETER LOCATION</u>	<u>ALLOWABLE GROUNDWATER ELEVATION, Mean Sea Level (feet)</u>
10	SE, toe	277
11	SWPH, (Units 1 & 2) crest	280
12	SWPH, (Units 1 & 2) toe	285
13	SWPH, (Units 1 & 2) crest	280
14	SWPH, (Units 1 & 2) crest	280
15	SE, crest	280
16	SE, crest	280
17	SE, crest	280
18	SWPH (Units 3 & 4)	295

<u>DRAIN OUTLETS</u>	<u>LOCATION</u>	<u>ALLOWABLE DRAIN FLOW RATE (gallons per minute)</u>
1 through 6	Drainage Gallery	FLOW RATE SHALL NOT EXCEED 8.5 GALLONS PER MINUTE (gpm)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 39
License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated September 16, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

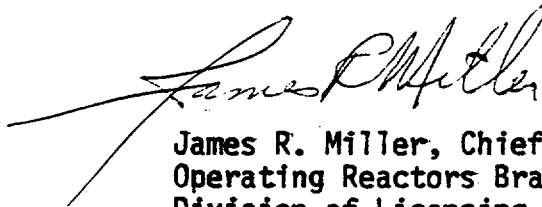
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 39, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 23, 1984

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 39 TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contains vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Page

3/4 7-15
3/4 7-53
3/4 7-56
3/4 7-57
3/4 7-58

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two service water loops (shared with Unit 1) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 6 months by measurement of the movement of the pumphouse and wing walls.
- c. At least once per 18 months during shutdown, by:
 1. Verifying that each automatic valve servicing safety related equipment actuates to its correct position on a safety injection signal.
 2. Verifying that each containment isolation valve actuates to its correct position on a containment high-high signal.

PLANT SYSTEMS

3/4.7.5 ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.5.1 The ultimate heat sinks shall be OPERABLE:

a. Service Water Reservoir with:

1. A minimum water level at or above elevation 313 Mean Sea Level, USGS datum, and
2. An average water temperature of less than or equal to 95°F as measured at the service water pump outlet.

b. The North Anna Reservoir with:

1. A minimum water level at or above elevation 244 Mean Sea Level, USGS datum, and
2. An average water temperature of less than or equal to 95°F as measured at the condenser inlet.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the requirements of the above specification not satisfied, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5.1 The ultimate heat sinks shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

4.7.5.2 Data for calculating the leakage from the service water reservoir shall be obtained and recorded at least once per 6 months.

PLANT SYSTEMS

3/4.7.12 SETTLEMENT OF CLASS 1 STRUCTURES

LIMITING CONDITION FOR OPERATION

3.7.12.1 The total settlement of each Class 1 structure or the differential settlement between Class 1 structures shall not exceed the allowable values of Table 3.7-5.

APPLICABILITY: All MODES

ACTION:

- a. With either the total settlement of any structure or the differential settlement of any structures exceeding 75 percent of the allowable settlement, conduct an engineering review of field conditions and evaluate the consequences of additional settlement. Submit a special report to the Commission pursuant to Specification 6.9.2 within 60 days, containing the results of the investigation, the evaluation of existing and possible continued settlement and the remedial action to be taken if any, including the date of the next survey.
- b. With the total settlement of any structure or the differential settlement of any two structures exceeding the allowable settlement value of Table 3.7-5, be in at least HOT STANDBY within 6 hours and COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.12.1 The total settlement of each Class 1 structure or the differential settlement between Class 1 structures listed in Table 3.7-5 shall be determined to the nearest 0.01 foot by measurement and calculation at least once per 6 months.

TABLE 3.7-5

ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

<u>SETTLEMENT POINT</u>	<u>STRUCTURE</u>	<u>SETTLEMENT POINT</u>	<u>STRUCTURE/COMPONENT</u>	<u>ALLOWABLE TOTAL SETTLEMENT* (FEET)</u>	<u>ALLOWABLE DIFFERENTIAL SETTLEMENT* (FEET)</u>
131	Containment Unit 2	224	Fuel Building	N/A	0.12
131	Containment Unit 2	123	Auxiliary Building	N/A	0.05
106	Containment Unit 2	105	Unit 2 Safeguards Area	N/A	0.07
107	Containment Unit 2	108	Unit 2 Safeguards Area	N/A	0.07
131	Containment Unit 2	124	Unit 2 Main Steam Valve House	N/A	0.03
107	Containment Unit 2	116	Service Building (E-15)	N/A	0.12
111	Safeguards Area Unit 2	124	Unit 2 Main Steam Valve House	N/A	0.12
122	Auxiliary Building	120	Unit 2 Main Steam Valve House	N/A	0.04
123	Auxiliary Building	124	Unit 2 Main Steam Valve House	N/A	0.04
123	Auxiliary Building	224	Fuel Building	N/A	0.05
129	Auxiliary Building	223	Fuel Building	N/A	0.05
122	Auxiliary Building	119	Service Building Tunnel	N/A	0.07
243, 132	Service Building (E-5, E-6)	238	Unit 1 Main Steam Valve House	N/A	0.04
117	**Service Building (E-14)	113	Unit 2 Main Steam Valve House	N/A	0.03 from 7/77
231	Auxiliary Feedwater Pump House Unit 2	249	Pipe Tunnel	N/A	0.12
228	Decontamination Building	250	Pipe Tunnel	N/A	0.06

NORTH ANNA UNIT 2

3/4 7-55

TABLE 3.7-5 (Continued)

ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

<u>SETTLEMENT POINT</u>	<u>STRUCTURE</u>	<u>SETTLEMENT POINT*</u>	<u>STRUCTURE/COMPONENT</u>	<u>ALLOWABLE TOTAL SETTLEMENT* (FEET)</u>	<u>ALLOWABLE DIFFERENTIAL SETTLEMENT* (FEET)</u>
226	Fuel Building	251	Waste Gas Decay Tank Enclosure	N/A	0.06
104	Safeguards Area Unit 2	254	Unit 2 Casing Cooling Building	N/A	0.12
7, 10	Service Water Pump House	15, 16, 17, or 18	Service Water Piping at SWPH North Side of Expansion Joint	N/A	from 2/79 0.22
8	Service Water Pump House	H-569 H-584	Pipe Hanger in Reservoir	N/A	from 7/77 0.17
15, 16, 17, 18	Service Water Piping at SWPH North Side of Expansion Joint			0.22 from 8/78	N/A
204	Circulating Water Intake Structure			0.15	N/A
158	***Turbine Building (B-9 1/2)			0.06	N/A
114	Service Building (E-17)			0.09	N/A
245, 246	Fuel Oil Pump House			0.03	N/A
206 207, 208, 209	Boron Recovery Tank Dike			0.03	N/A

TABLE 3.7-5 (Continued)ALLOWABLE TOTAL SETTLEMENT OR DIFFERENTIAL SETTLEMENT FOR CLASS 1 STRUCTURES

- * Unless otherwise indicated, allowable settlements are from base-line elevations established in May 1976 or reference elevations corrected to the May 1976 survey.
- ** Critical differential settlement is downward movement of Point 117 with respect to Point 113.
- ***Not Class 1 structure, but settlement affects Class 1 pipeline.

PLANT SYSTEMS

3/4.7.13 GROUNDWATER LEVEL-SERVICE WATER RESERVOIR

LIMITING CONDITION FOR OPERATION

3.7.13 The groundwater level of the service water reservoir (common to Units 1 and 2) shall not exceed the elevation at the locations listed in Table 3.7-6. The flow of groundwater from the drains beneath the pumphouse shall not exceed the values given in Table 3.7-6.

APPLICABILITY: All MODES.

ACTION:

With the groundwater level of the service water reservoir or the ground water flow rate exceeding any of the limits of Table 3.7-6, an engineering evaluation shall be performed by a Licensed Civil Engineer to determine the cause of the high ground water or flow rates and the influence on the stability of the service water reservoir and pumphouse. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days, containing the results of the evaluation and any corrective action determined to be necessary.

SURVEILLANCE REQUIREMENTS

4.7.13.1 The groundwater level within the dike of the service water reservoir as determined by monitoring the piezometers shall be within limits presented in Table 3.7-6. Measurements shall be performed at least once per 6 months. The groundwater flow rate shall be determined by measurements at the drain outlet gallery. Flow rate measurements shall be taken at the same frequency as the piezometers (that is once per every 6 months) and the flow rate shall not exceed that established in Table 3.7-6. A visual inspection of the clarity of the outflow from each drain shall be performed in conjunction with the flow monitoring effort.

TABLE 3.7-6

ALLOWABLE GROUNDWATER LEVELS - SERVICE WATER RESERVOIR

<u>PIEZOMETER NO.</u>	<u>PIEZOMETER LOCATION</u>	<u>ALLOWABLE GROUNDWATER ELEVATION Mean Sea Level (feet)</u>
10	SE, toe	277
11	SWPH, (Units 1 & 2) crest	280
12	SWPH, (Units 1 & 2) toe	285
13	SWPH, (Units 1 & 2) crest	280
14	SWPH, (Units 1 & 2) crest	280
15	SE, crest	280
16	SE, crest	280
17	SE, crest	280
18	SWPH (Units 3 & 4)	295

<u>DRAIN OUTLETS</u>	<u>LOCATION</u>	<u>ALLOWABLE DRAIN FLOWRATE (gallons per minute)</u>
1 through 6	Drainage Gallery	FLOW RATE SHALL NOT EXCEED 8.5 GALLONS PER MINUTE (gpm)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 57 AND 39 TO

FACILITY OPERATING LICENSE NOS. NPF-4 AND NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

NORTH ANNA POWER STATION, UNITS NO. 1 AND NO. 2

DOCKET NOS. 50-338 AND 50-339

Introduction:

By letter dated September 16, 1983, the Virginia Electric and Power Company (the licensee) requested an amendment in the form of changes to the Technical Specifications (TS) to Facility Operating Licenses No. NPF-4 and No. NPF-7 for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2), respectively.

The proposed changes would revise TS 3/4.7.4, 3/4.7.12 and 3/4.7.13. TS 3/4.7.4 would be revised to terminate the requirements to measure the turbidity and suspended solids in the outflow from the drain system under the service water pumphouse. TS 3/4.7.12 would be revised to decrease the frequency of settlement monitoring to once per 6 months at the service water pumphouse. TS 3/4.7.13 would be revised to decrease the frequency of monitoring for the piezometers and provide a consistent uniform 6 month monitoring frequency for all groundwater levels and flow measurements. The proposed changes would also remove the requirement to provide a 5 year surveillance summary report.

Discussion:

In accordance with the NA-1&2 TS, the Service Water Reservoir Impoundment and Pumphouse at NA-1&2 has been monitored with regard to settlement, groundwater levels and rate of groundwater flow since November 1977. The licensee requested a change to the allowable settlement value in June 1978 which resulted in a public hearing by the Atomic Safety and Licensing Appeal Board (ASLAB) in June 1979. Following the ASLAB hearing, Amendment No. 12 to the NA-1 Facility Operating License NPF-4 was issued on June 28, 1979 which required that the frequency of some monitoring, especially in the vicinity of the NA-1&2 pumphouse, be increased to at least once per 31 days. Amendment No. 12 further required that a summary report at the end of a five year surveillance period be submitted to the NRC. This report was submitted by the licensee on February 24, 1983 and was in accordance with the requirement of TS 3/4.7.13.

8406080021 840523
PDR ADOCK 05000338
P PDR

Evaluation:

Our review of the licensee's five year summary report follows:

1. Settlements of the pumphouse, wingwalls, pipe expansion joint enclosure and alignment-settlement markers are small and acceptable. In addition, the rates of settlement have decreased with time (3/4.7.12).
2. Settlement of the service water lines is continuing and could attain 75 percent of the allowable values within the presently specified 40 year lifetime of the plant (3/4.7.12).
3. Spray piping supports have experienced acceptable settlement over the past five years (3/4.7.12).
4. Groundwater levels and flow rates as measured by the piezometers, horizontal-drains and weir walls are stable (3/4.7.13).
5. The laboratory tests for the quality of the outflow have shown no detectable turbidity or suspended solids (3/4.7.4).

Based on the above, we conclude that these trends show sufficient stability and acceptable movement to allow discontinuing some phases of monitoring and reducing the frequency of others. Therefore, the licensee's proposed changes for the NA-1&2 TS are acceptable.

Environmental Consideration:

We have determined that the amendments are administrative in nature and do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of the amendments.

Conclusion:

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 23, 1984

Principal Contributors:

J. T. Chen
L. B. Engle