



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931**

July 25, 2002

Virginia Electric and Power Company
ATTN: Mr. David A. Christian
Senior Vice President and
Chief Nuclear Officer
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060

**SUBJECT: NORTH ANNA POWER STATION - NRC EXAMINATION REPORT
NOS. 50-338/2002-301 AND 50-339/2002-301**

Dear Mr. Christian:

During the period June 10-14 and June 24-25, 2002, the Nuclear Regulatory Commission (NRC) administered operating examinations to employees of your company who had applied for licenses to operate the North Anna Power Station. At the conclusion of the examination, the examiners discussed the examination questions and preliminary findings with those members of your staff identified in the enclosed report. The written examination was administered by your staff on June 6, 2002.

Eleven of the thirteen applicants passed both the written and operating examinations. One Reactor Operator applicant and one Senior Reactor Operator applicant failed the written examination. A Simulation Facility Report is included in this report as Enclosure 2. There were three Post Examination comments. Post examination comment resolution is included in this report as Enclosure 3.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael E. Ernstes, Chief
Operator Licensing and
Human Performance Branch
Division of Reactor Safety

Docket Nos.: 50-338, 50-339
License Nos.: NPF-4, NPF-7

Enclosures: (See page 2)

Enclosures: 1. Report Details
2. Simulation Facility Report
3. NRC's Resolution to the Facility's Post Examination Comments

cc w/encls:

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VEPC

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Distribution w/encls:
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NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-338, 50-339

License Nos.: NPF-4, NPF-7

Report Nos.: 50-338/02-301, 50-339/02-301

Licensee: Virginia Electric and Power Company (VEPCO)

Facility: North Anna Power Station

Location: 1024 Haley Drive
Mineral, VA 23117

Dates: Operating Tests - June 10-14 and June 24-25, 2002
Written Examination - June 6 , 2002

Examiners: R. Aiello, Chief Examiner
L. Miller, Senior Operations Engineer
R. Monk, Operations Engineer
R. Morris, Operations Engineer

Approved by: M. Ernstes, Chief
Operator Licensing and Human Performance Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000338-02-301, IR 05000339-02-301 on 6/10-14/2002 and 6/24-25/2002, Virginia Electric and Power Company, North Anna Power Station licensed operator examinations.

The NRC examiners conducted an announced operator licensing initial examination in accordance with the guidance of Examiner Standards, NUREG-1021, Revision 8, Supplement 1. This examination implemented the operator licensing requirements of 10 CFR §55.41, §55.43, and §55.45. No significant issues were identified.

Six Reactor Operator (RO) applicants and seven Senior Reactor Operator (SRO) applicants received written examinations and operating tests. The NRC administered the operating tests during the period June 10-14 and June 24-25, 2002. The licensee administered the written examination on June 6, 2002. Eleven of the thirteen applicants passed both the written and operating examinations. One Reactor Operator applicant and one Senior Reactor Operator applicant failed the written examination.

Report Details

4. OTHER ACTIVITIES (OA)

4OA5 Operator Licensing Initial Examinations

a. Inspection Scope

The NRC conducted a regular, announced operator licensing initial examination during the period June 10-14 and June 24 -25, 2002. Six RO applicants and seven SRO applicants received written and operating examinations. The examiners reviewed the examination security measures to ensure examination security and integrity.

b. Issues and Findings

No findings of significance were identified.

The NRC developed the operating test outline. The licensee developed the operating test from the submitted outline. The NRC developed the written examination. Both exams were created in accordance with NUREG 1021, Revision 8, Supplement 1. The NRC administered the approved operating tests during the period of June 10-14 and June 24-25, 2002. The licensee staff administered the approved written examination on June 6, 2002.

Eleven of the thirteen applicants passed both the written and operating examinations. One Reactor Operator applicant and one Senior Reactor Operator applicant failed the written examination. Details of each applicant's deficiencies are described in the individual's examination report, Form ES-303-1, "Operator Licensing Examination Report." Copies of the evaluations have been forwarded under separate cover to the Training Manager to enable the licensee to evaluate these deficiencies and provide appropriate remedial training for those operators as necessary.

The NRC submitted the written examinations (ADAMS Accession Number ML022050114). Post examination comments were submitted by the licensee (ADAMS Accession Number ML022050197). The NRC's resolution to these comments is included as Enclosure 3.

4OA6 Meetings

Exit Meeting Summary

The Chief Examiner presented the preliminary examination results on June 25, 2002, to members of licensee management. The licensee acknowledged the examination results presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

S. Crawford, Instructor
A. Royal, Training Manager
J. Scott, Supervisor, Operations Training
D. Tibilis, Instructor

NRC

R. Aiello, Chief Examiner
L. Miller, Senior Operations Engineer
R. Monk, Operations Engineer
M. Morris, Region III Operations Engineer

SIMULATION FACILITY REPORT

Facility Licensee: North Anna

Facility Docket Nos.: 50-338, 50-339

Operating Tests Administered on: June 10-14 and June 24-25, 2002

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information that may be used in future evaluations. No licensee action is required in response to these observations.

No simulator configuration or fidelity items were identified.

NRC's RESOLUTION TO THE FACILITY'S POST EXAMINATION COMMENTS

Facility comment to SRO Question #72 accepted: Typographical error. The correct answer should be "A" (97%)

Facility comment to SRO Question #89 accepted: Typographical error. The correct answer should be "C" (To prevent damage to the pressurizer heaters)

Facility comment to RO/SRO Question #15 NOT accepted: In accordance with NCRODP-74-NA, the steam undergoes an extremely rapid expansion which is almost isenthalpic (BTUs of energy per pound mass remain constant). The expansion causes the BTUs to be contained in a much larger volume. Temperatures will indicate between 200 and 300 degrees F. Based on the initial conditions, RCS temperature and pressure will decrease and stabilize out long after the reactor trip and after the PRT rupture disc breaks. Since enthalpy is basically constant across the safety valve, tail piece temperatures will increase to around 200 and 300 degrees F, then continue to increase slowly until the PRT rupture disc breaks. The tail pipe temperatures will start to decrease proportionately with the drop in RCS pressure and temperature.

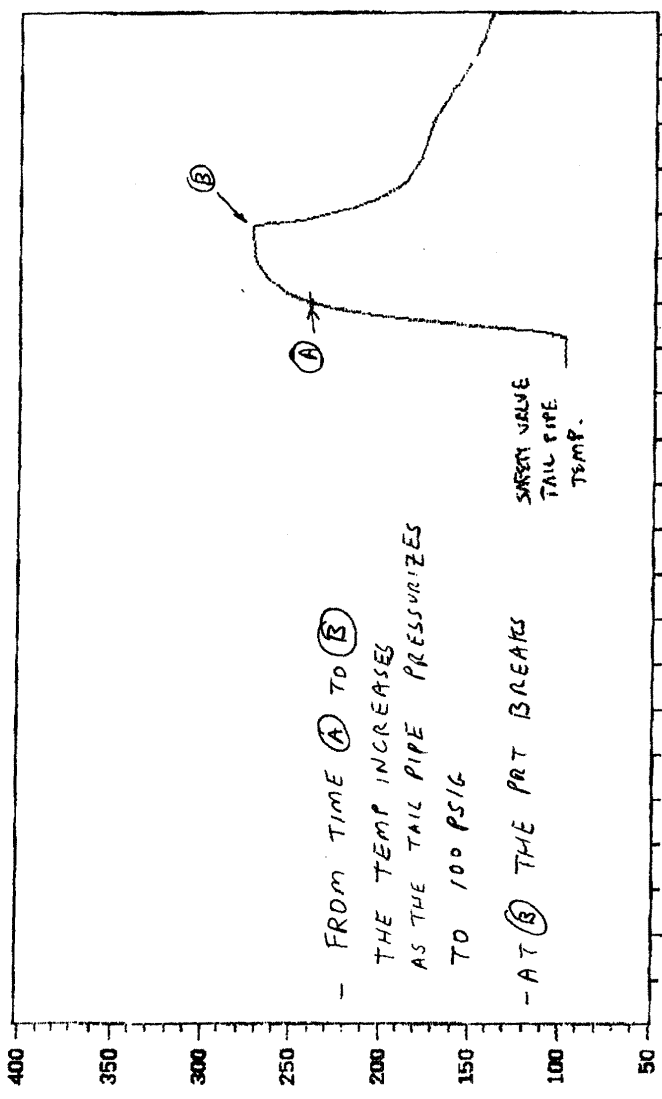
Based on the facility's post exam comment: The NRC requested the facility to set up and run a test on the simulator in order that a graph of tail piece temperature vs time could be created for reference. This graph is included as Attachment 1 to this enclosure. Based on the time increments, answer "D" is the only correct answer for the following reasons:

1. Each time increment on the trace appears to be ~ 40 seconds. This results in the following rates of temperature increase:
 - a. Temp increase from temp of ~100 degrees to ~ 265 degrees occurs over ~1st 40 seconds for a rate of ~248 degrees/minute. Note that 100 degrees appears to be temp just prior to safety opening.
 - b. Temp increase from 265 to ~peak temp of ~275 occurs over ~50 seconds for a rate of ~12 degrees/min.
 - c. Temp decrease from ~275 to ~175 occurs over ~ 70 seconds for a rate of ~85 degrees/minute.

Therefore, given these rates of temp increase and decrease, the NRC believes that it is not reasonable to credit answer "C" as correct. The second part of distractor "C", (...and then **slowly** decrease) would not appear to reasonably describe the rate of temp decrease after the PRT rupture disc breaks. Answer "D" is valid based on the first two temp increase rates described above - "increase to between 200 and 300 and then slowly increase."

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