UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

MAY 21 1982

INVESTIGATION REPORT NOS. 50-338/82-11 and 50-339/82-11

SUBJECT: Virginia Electric and Power Company
North Anna Nuclear Power Station
Mineral, Louisa County, Virginia

Improper Health Physics Practice of January 14, 1982

DATES OF INVESTIGATION: April 8, 9, and 12, 1982

INVESTIGATORS: William J. Tobin — 5-5-82
W. J. Tobin, Regional Investigator — Date Signed
Enforcement and Investigations Staff

L. A. Franklin — 5-5-82
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Division of Engineering and Technical Programs

REVIEWED BY: Carl E. Alderson — 5/6/82
Carl E. Alderson, Director — Date Signed
Enforcement and Investigations Staff

SUMMARY OF INVESTIGATION

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA NUCLEAR STATION

LOUISA COUNTY, VIRGINIA

APRIL 8, 9 AND 12, 1982

A. BACKGROUND

On April 6, 1982, the NRC Resident Inspector determined that an Assistant Health Physics Supervisor received disciplinary action for an incident that occurred on January 14, 1982. Upon further inquiry the Resident Inspector learned that the incident involved the changing of the alarm set points of two hand-held contamination detectors by the Assistant Health Physics Supervisor prior to a tour group of local officials exiting the radiological control area in the Auxiliary Building. On April 7, 1982 appropriate Region II staff members spoke with the North Anna Plant Manager, and on April 8, 9 and 12, Region II conducted an investigation under the authority of Section 161.c of the Atomic Energy Act of 1954 as amended.

B. SCOPE

The Region II investigation included interviews with the North Anna Plant Manager, the Health Physics Supervisor, and the Assistant Health Physics Supervisor. Interviews were conducted onsite and offsite, and, in the case of the Assistant Health Physics Supervisor, a signed and sworn statement was obtained. The Investigators reviewed the licensee's procedures and special instructions relative to health physics practices. Air sampling records, contamination survey reports and security access logs were analyzed in an attempt to reconstruct the chronology of the incident. The Investigators reviewed AEC Form 5, "Current Occupational External Radiation Exposure Record", for all the escorts involved in the January 14 tour.

C. FINDINGS

On January 14, 1982, nine Louisa County Supervisors were given a prearranged tour of the North Anna Nuclear Station (Louisa County, Virginia) to familiarize them with the handling and storage of spent fuel proposed to be transported through the County. During the tour, security guards who had been present with these officials at the Fuel Building were determined to be wearing trousers contaminated with rubidium-88. The Assistant Health Physics Supervisor choose not to cause undue concern to the County officials in the event they also were found to be contaminated, and, therefore, he changed the scale settings from "x1" to "x10" of both self-frisking contamination detectors located at the two exit lanes of the radiological controlled area. In effect, he increased the alarm set point of the detectors. He then positioned himself within a few feet of the exit lanes so he could still see the meter face of one detector and hear the audio "clicks" of both detectors. All of the individuals on the tour frisked themselves without causing an alarm (on the "x10" scale) and, in the estimation of the Assistant Health Physics Supervisor, were contaminated to a level of 2500 to 3000 disintegration-per-minute above normal background. The Assistant Health

Physics Supervisor reasoned that the contamination was rubidium-88 because of the finding of that isotope on the trousers of the guards who had been with the tour group and because of previous rubidium-88 activity at that elevation of the Fuel Building and its proximity to the plant's letdown monitor system.

Normally, individuals who have passed through the hand held self-frisker lanes are then funneled through lanes where walk-through contamination detectors are located. On January 14, 1982 these monitors were experiencing background fluctuations and were placed out of service. Consequently, the tour group did not receive this second check for contamination. The group toured the site for approximately another 35 to 40 minutes and then exited the protected area through functioning walk-through contamination detectors at the security building without causing an alarm there.

Vistor exposure records dated January 14, 1982, for the tour group reflected a zero reading on the self-reading pocket dosimeters. Current occupational external radiation exposure records (AEC Form 5) for the licensee escorts reflected a zero accumulative quarter total exposure.

D. CONCLUSION

10 CFR 20.201(b) requires licensees to make surveys as may be necessary and reasonable under the circumstances to evaluate the extent of the radiation hazards that may be present. Station Health Physics procedures (Radiation Protection Manual, section 1.3.g) requires exits from the radiation controlled areas to be by way of a frisker and a walk-through portal monitor to ensure the lack of contamination.

The licensee violated these requirements in that the portal monitors were inoperative and the frisker alarm set point was intentionally changed to not alarm in detecting rubidium-88 and other contaminants possibly present.

E. REGION II RESPONSE

On April 12, 1982, the exit meeting was conducted telephonically with the North Anna Nuclear Station Plant Manager. He was advised of the one violation. Additional concerns relative to health physics supervision and adherence to procedures were also discussed. The Plant Manager responded by advising Region II that his efforts to correct the incident of January 14 were not complete. He also stated that VEPCO's Vice President of Nuclear Operations was preparing a letter to be sent to each County supervisor explaining the incident.

On April 14, 1982, Region II management held telephone conversations with the licensee's corporate management relative to health physics practices, adherence to procedures, and supervision of the health physics program at North Anna. On April 14 each County official

was advised telephonically by the licensee of the details of the January 14, 1982 incident. On April 14, the Region II Administrator contacted the Administrator of the Louisa County Board of Supervisors and discussed Region II's concern over the licensee's failure to follow procedures. By letter dated April 15, VEPCO submitted to Region II a report of the January 14 incident and copies of letters sent to each County Supervisor.