



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

DEC 27 1984

Report Nos.: 50-338/84-42 and 50-339/84-42

Licensee. Virginia Electric and Power Company
Richmond, VA 23261

Docket Nos.: 50-338 and 50-339

License Nos.: NPF-4 and NPF-7

Facility Name: North Anna 1 and 2

Inspection Conducted: November 14-16, 1984

Inspector: T. R. Decker
T. R. Decker

12/14/84
Date Signed

Accompanying Personnel: R. S. Traub
D. R. Fisher
G. W. Bethke
E. E. Hickey

Approved by: W. E. Cline
W. E. Cline, Section Chief
Division of Radiation Safety and Safeguards

12/17/84
Date Signed

SUMMARY

Scope: This routine, announced inspection entailed 85 inspector-hours on site in the area of an emergency preparedness exercise.

Results: No violations or deviations were identified.

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REPORT DETAILS

1. Licensee Employees Contacted

- *W. L. Stewart, V. P. Nuclear Operations
- *R. H. Leasburg, Sr. V. P., Engineering & Construction
- *R. J. Hardwick, Manager, Nuclear Programs & Licensing
- *J. W. Martin, Director - Emergency Planning
- *W. R. Cartwright, Manager, Nuclear Operations
- *J. W. Ogren, Director, Operations & Maintenance
- *E. W. Harrell, Station Manager
- *G. E. Kane, Assistant Station Manager
- *M. L. Bowling, Assistant Station Manager
- *R. O. Enfinger, Superintendent Operations
- *J. R. Harper, Superintendent Maintenance
- *L. A. Johnson, Superintendent Technical Services
- *A. H. Stafford, Supervisor, Health Physics
- *G. J. Paxton, Supervisor, Administrative Services
- *W. W. Cameron, Director, Chemistry and Health Physics
- *C. E. Kube, Jr., Supervisor, Records anager

Other licensee employees contacted included technicians, operators, mechanics, security force members, and office personnel.

NRC Resident Inspector

*J. Luehman

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 15, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 338/84-02-01 and 339/84-02-01, Inadequate shift supervisor training for prompt protective action recommendations. The inspector reviewed the licensee's response and noted that increased emphasis has been placed on prompt protective action decisionmaking.

(Closed) Violation 338/84-02-02 and 339/84-02-01, EPIP 2.01 does not transmit protective action recommendations to state on plant status alone. EPIP 2.01 was acceptably revised.

4. Exercise Scenario (82301)

The Scenario for the emergency exercise was reviewed to determine that provisions had been made to test the integrated capability and a major portion of the basic elements existing within the licensee, state and local emergency plans and organization as required by 10 CFR 50.47(b)(14), 10 CFR 50, Appendix E, paragraph IV.F and specific criteria in NUREG 0654, Section II.N.

The scenario was reviewed in advance of the scheduled exercise date and was discussed with licensee representatives on several occasions. Technical problems in the scenario were identified by the inspectors. These scenario weaknesses were primarily in the areas of missing operational data, inappropriate operational data and situations, and incorrect assumptions with regard to accident meteorology. This situation was discussed with the licensee following the exercise. Scenario weaknesses were identified by the inspectors as a significant finding and the scenario issue will be reviewed during future exercises (50-338/84-42-01 and 50-339/84-42-01).

No violations or deviations were identified.

5. Assignment of Responsibility (82301)

This area was observed to determine that primary responsibilities for emergency response by the licensee had been specifically established and that adequate staff was available to respond to an emergency as required by 10 CFR 50.47(b)(1), 10 CFR 50, Appendix E, paragraph IV.A, and specific criteria in NUREG 0654, Section II.A.

The inspectors verified that the licensee has made specific assignments to the emergency organization. The inspectors observed the activation, staffing and operation of the emergency organization in the Control Room, TSC, OSC, and EOF. At each of these centers, the assignment of responsibility and staffing appeared to be consistent with the licensee's approved procedures. The inspectors had no further questions in this area.

No violations or deviations were identified.

6. Onsite Emergency Organization (82301)

The licensee's onsite emergency organization was observed to determine that the responsibilities for emergency response were unambiguously defined, that adequate staffing was provided to insure initial facility accident response in key functional areas at all times, and that the interfaces were specified as required by 10 CFR 50.47(b)(2), 10 CFR 50, Appendix E, paragraph IV.A, and specific criteria in NUREG 0654, Section II.B.

The inspectors determined that the licensee's onsite emergency organization was effective in dealing with the simulated emergency. Adequate staffing of the emergency response facilities was provided for the initial accident response and the interfaces between the onsite organization and offsite

support agencies appeared to be adequate. The inspectors had no further questions in this area.

No violations or deviations were identified.

7. Emergency Response Support and Resources (82301)

This area was observed to determine that arrangements for requesting and effectively using assistance resources had been made, that arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility had been made, and that other organizations capable of augmenting the planned response had been identified as required by 10 CFR 50.47(b)(3), 10 CFR 50, Appendix E, paragraph IV.A, and specific criteria in NUREG 0654, Section II.C.

State staff were accommodated at the near-site Emergency Operations Facility. Licensee contact with offsite organizations was prompt and assistance resources from various agencies were prepared to assist in the simulated emergency. The inspector had no further questions in this area.

No violations or deviations were identified.

8. Emergency Classification System (82301)

This area was observed to determine that a standard emergency classification and action level scheme was in use by the nuclear facility licensee as required by 10 CFR 50.47(b)(4), 10 CFR 50, Appendix E, paragraph IV.C, and specific criteria in NUREG 0654, Section II.D

An inspector observed that the emergency classification system was in effect as stated in the Radiological Emergency Plan and in the Implementing Procedures. The system appeared to be adequate for the classification of the simulated accident. The inspector had no further questions in this area.

No violations or deviations were identified.

9. Notification Methods and Procedures (82301)

This area was observed to determine that procedures had been established for notification by the licensee of State and local response organizations and emergency personnel, and that the contents of initial and followup messages to response organizations have been established; and means to provide early notification to the populace within the plume exposure pathway have been established as required by 10 CFR 50.47(b)(5), 10 CFR 50, Appendix E, paragraph IV.D, and specific criteria in NUREG 0654, Section II.E.

An inspector observed that notification methods and procedures had been established and were used to provide information concerning the simulated emergency conditions to Federal, State and local response organizations and to alert the licensee's augmented emergency response organization. The inspectors had no further questions in this area.

No violations or deviations were identified.

10. Emergency Communications (82301)

This area was observed to determine that provisions existed for prompt communications among principal response organizations and emergency personnel as required by 10 CFR 50.47(b)(6), 10 CFR 50, Appendix E, paragraph IV.E, and specific criteria in NUREG 0654, Section II.F.

Communications among the licensee's emergency response facilities and emergency organization and between the licensee's emergency response organization and offsite authorities were acceptable. No communications related problems were identified during this exercise.

No violations or deviations were identified.

11. Public Education and Information (82301)

This area was observed to determine that information concerning the simulated emergency was made available for dissemination to the public as required by 10 CFR 50.47(b)(7), 10 CFR 50, Appendix E, paragraph IV.D, and specific criteria in NUREG 0654, Section II.G.

Information was provided to the media and the public in advance of the exercise. The information included details on how the public would be notified and what initial actions they should take in an emergency. A rumor control program was also in place. An Emergency News Center (ENC) was established at Richmond, Virginia and was adequately equipped. An inspector observed that the media center response would have benefited from a spokesman representing the State who would be at the ENC and involved in the center operations. The inspector had no further questions in this area.

No violations or deviations were identified.

12. Emergency Facilities and Equipment (82301)

This area was observed to determine that adequate emergency facilities and equipment to support an emergency response were provided and maintained as required by 10 CFR 50.47(b)(8), 10 CFR 50, Appendix E, paragraph IV.E, and specific criteria in NUREG 0654, Section II.H.

The inspectors observed the activation, staffing and operation of the emergency response facilities and evaluated equipment provided for emergency use during the exercise.

- a. Control Room - An inspector observed that control room personnel acted promptly to initiate emergency response to the simulated emergency. Emergency procedures were readily available and the response was prompt and effective. Emergency work requests (ADM-16.5), however, were not filled out before maintenance personnel were directed to repair the simulated breaker and problems on the liquid waste pump. The Shift Supervisor provided no formal guidance to maintenance personnel concerning the use of "human tagouts". Station procedures contain no explicit guidance on the use of precautions related to performing emergency work without a tagout. The inspector noted the need to add guidance concerning use of "human tagouts" in administrative procedures, Section 14 and/or 16, and to the accident prevention manual. This routine observer finding will be reviewed during a subsequent inspection (50-338/84-42-02 and 50-339/84-42-02). The inspector had no further questions in this area.
- b. Technical Support Center (TSC) - The TSC was activated and staffed promptly upon notification by the Emergency Manager of the simulated emergency conditions leading to an Alert emergency classification. The TSC staff appeared to be knowledgeable concerning their emergency responsibilities and TSC operations proceeded relatively smoothly. The TSC appeared to have adequate equipment for the support of the assigned staff. Dose assessment projections were very slow. Procedures appeared to be cumbersome and hard to use. Unmonitored releases require use of manual procedures. It took over an hour to calculate the first dose projections. With the exception of comments regarding dose calculations provided in paragraph 13, the inspectors had no further questions in this area.
- c. Operations Support Center (OSC) The OSC was staffed promptly upon activation by the Emergency Manager. An inspector observed that teams were formed promptly, briefed and dispatched efficiently. The inspector had no further questions in this area.
- d. Emergency Operations Facility The EOF is located in the training building on the reactor site. This interim facility appears to be adequately designed, equipped and staffed to support an emergency response. The inspector had no further questions in this area.

No violations or deviations were identified.

13. Accident Assessment (82301)

This area was observed to determine that adequate methods, systems and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition were in use as required by 10 CFR 50.47(b)(9), 10 CFR 50, Appendix E, paragraph IV.B, and specific criteria in NUREG 0654, Section II.I.1

The accident assessment program includes both an engineering assessment of plant status and an assessment of radiological hazards to both onsite and offsite personnel resulting from the accident. During the exercise, the engineering accident assessment team functioned effectively in analyzing the plant status so as to make recommendations to the Station Emergency Manager concerning mitigating actions to reduce damage to plant equipment, to prevent release of radioactive materials and to terminate the emergency condition.

Radiological assessment activities are spread over several groups. A group in the TSC was estimating the radiological impact by plant-based, derived source terms. Dose projections were much lower than field measurements by several orders of magnitude. The reason for the lower projections was never clearly understood and eventually the Radiological Assessment Director discontinued using the manual dose calculations. There were poor communications and coordination between the TSC and EOF which both seemed to be acting independently. This routine inspector finding was discussed with the licensee and will be reviewed during a subsequent inspection (50-338/84-42-03 and 50-339/84-42-03).

No violations or deviations were identified.

15. Protective Responses (82301)

This area was observed to determine that guidelines for protective actions during the emergency, consistent with Federal guidance, were developed and in place, and protective actions for emergency workers, including evacuation of nonessential personnel, were implemented promptly as required by 10 CFR 50.47(b)(10), and specific criteria NUREG 0654, Section II.J.

An inspector verified that the licensee had and used emergency procedures for formulating protective action recommendations for offsite populations within the 10 mile EPZ. The licensee's protective action recommendations were consistent with EPA and other criteria and notifications were made to the appropriate State and local authorities within the 15 minute criteria.

An inspector observed that protective actions were instituted for onsite emergency workers which included periodic radiation surveys in the facility, evacuation of nonessential personnel and continued accountability of emergency response personnel. The inspector had no further questions in this area.

No violations or deviations were identified.

15. Radiological Exposure Control (82301)

This area was observed to determine that means for controlling radiological exposures, in an emergency, were established and implemented for emergency workers and that they included exposure guidelines consistent with EPA recommendations as required by 10 CFR 50.47(b)(11), and specific criteria in NUREG 0654, Section II.K.

An inspector noted that radiological exposures were controlled throughout the exercise by issuing emergency workers supplemental dosimeters and by periodic surveys in the emergency response facilities. Exposure guidelines were in place for various categories of emergency actions and adequate protective clothing and respiratory protection were available and used as appropriate. The inspector had no further questions in this area.

No violations or deviations were identified.

16. Medical and Public Health Support (82301)

This area was observed to determine that arrangements were made for medical services for contaminated injured individuals as required by 10 CFR 50.47(b)(12), 10 CFR 50, Appendix E, paragraph IV.E, and specific criteria in NUREG 0654, Section II.L.

An inspector observed the emergency medical rescue activities at the accident scene. In all portions of the exercise, appropriate judgement was displayed with regard to first aid practices, decontamination of the patient, and contamination control. The inspector had no further questions in this area.

No violations or deviations were identified.

17. Recovery and Reentry Planning (82301)

This area was observed to determine that general plans were made for recovery and re-entry as required by 10 CFR 50.47(b)(13), 10 CFR 50, Appendix E, paragraph IV.H. and specific criteria in NUREG 0654, Section II.M.

The licensee developed general plans and procedures for re-entry and recovery which addressed both existing and potential conditions. The plan contained the position/title, authority and responsibilities of each key individual in the recovery organization. The inspector had no further questions in this area.

No violations or deviations were identified.

18. Exercise Critique (82301)

The licensee's critique of the emergency exercise was observed to determine that deficiencies identified as a result of the exercise and weaknesses noted in the licensee's emergency response organization were formally presented to licensee management for corrective actions as required by 10 CFR 50.47(b)(14), 10 CFR 50, Appendix E, paragraph IV.E, and specific criteria in NUREG 0654, Section II.N.

A formal licensee critique shortly after the conclusion of the emergency exercise was held with exercise controllers, key exercise participants, licensee management, and NRC personnel attending. Many of the deficiencies and weaknesses in the emergency preparedness program, identified as a result of this exercise, were presented. Followup of corrective actions taken on NRC and licensee identified deficiencies and weaknesses will be accomplished through subsequent NRC inspections.

A public critique was held on November 16, 1984. Representatives from licensee management, the State, local governments, FEMA and the NRC presented their preliminary findings on the exercise.

No violations or deviations were identified.

20. Federal Evaluation Team Report (82301)

The report by the Federal Evaluation Team (Regional Assistance Committee and Federal Emergency Management Agency, Region III staff) concerning the activities of offsite agencies during the exercise will be forwarded by separate correspondence.

No violations or deviations were identified.

21. Inspector Followup (92701)

- a. (Closed) Inspector Followup Item (IFI) 50-338/83-14-01, 50-339/83-16-01: Correcting boom length on meteorological tower. The inspector reviewed engineering work request EWR-83-179 with regards to the subject boom length and found the results acceptable.
- b. (Closed) IFI 50-338/83-14-02, 50-339/83-16-02: Correcting temperature stability charts and graphs. The inspector noted that the procedures have been revised, the placards reengraved and digital readouts (reading in 1/10's of a degree) have been added above the recorders.
- c. (Closed) IFI 50-338/83-14-03, 50-339/83-16-03: Providing assurance the hospital can handle contaminated patients. Seven drill results were reviewed and the critiques found acceptable.