



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

NOV 08 1984

Report Nos.: 50-413/84-98 and 50-414/84-44

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 28242

Docket Nos.: 50-413 and 50-414

License Nos.: NPF-24 and CPPR-117

Facility Name: Catawba Nuclear Station

Inspection Conducted: October 15 - 19, 1984

Inspector:

J. L. Kreh
J. L. Kreh

11-5-84
Date Signed

Accompanying Personnel: F. N. Carlson

Approved by:

W. E. Cline
W. E. Cline, Chief

11-5-84
Date Signed

Emergency Preparedness Section
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, unannounced inspection entailed 68 inspector-hours on site in the area of emergency preparedness. The purpose of this inspection was to complete the evaluation of the licensee's responses and corrective actions related to the deficiencies, improvement items, and incomplete areas identified during the emergency preparedness appraisal conducted November 8 - 18, 1983 (NRC Report Nos. 50-413/83-42 and 50-414/83-35). The licensee's responses and planned corrective actions were documented in the attachment to an April 10, 1984 letter to the Regional Administrator. An inspection on May 14 - 18, 1984 (NRC Report Nos. 50-413/84-54 and 50-414/84-24) closed 51 of the 72 open items from the November 1983 appraisal.

Results: No violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. W. Hampton, Station Manager
 *C. L. Hartzell, Compliance Engineer
 *P. G. LeRoy, Licensing Engineer
 *W. H. Bradley, QA Supervisor
 *F. N. Mack, Jr., Projects Services
 *P. A. McIntyre, I&E Engineer
 *T. K. Anderson, Security and Contract Coordinator
 T. L. Bohart, Engineer, Plant Performance Group
 J. M. Stackley, Supervisor, I&E Support Engineering
 L. L. Earle, I&E Engineer
 P. C. McAnulty, Training and Safety Coordinator
 G. T. Mode, Health Physics Supervisor
 F. L. Wilson, Health Physics Supervisor
 P. N. McNamara, Staff Health Physicist
 *M. E. Bolch, Emergency Preparedness Coordinator

NRC Resident Inspector

*P. H. Skinner

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 19, 1984, with those persons indicated in paragraph 1 above.

3. Inspector Follow-up Items (92701)

- a. (Closed) Inspector Follow-up Item (IFI) 413/83-23-02, 414/83-20-02: Providing a telephone for the NRC team in the Recovery Manager's office. A licensee representative informed the inspector that the subject telephone was installed prior to the February 1984 exercise.
- b. (Closed) IFI 413/83-23-05, 414/83-20-05: Providing for the safe disposal of contaminated liquid waste at the offsite assembly areas. This is discussed in paragraph 4d below.
- c. (Closed) IFI 413/84-12-01, 414/84-08-01: Providing for use of emergency entry procedures for drills and exercises. The licensee has discussed this matter at length with both NRC Licensing and Region II staff, and the inspector received a briefing from licensee representatives. It was learned that Catawba Nuclear Station (CNS) Security procedures would allow for suspension (at the Station Manager's

discretion) of normal entry requirements for the Protected Area if the demonstration of unfettered access (for NRC Site Team, offsite fire department, etc.) were made a formal exercise objective. The inspector had no further questions in this area.

4. Appraisal Open Items (82101)

In this paragraph, the numbers in brackets following the categorical designators correspond to the item numbers used in Appendices A, B, and C to the December 28, 1983 letter which transmitted Report Nos. 50-413/83-42 and 50-414/83-35.

- a. (Closed) Incomplete Area [1] (413/83-42-06, 414/83-35-06): Establish and implement training programs for (1) operator personnel in dose projection methods and (2) chemistry personnel in procedures related to the Post-Accident Sampling System (PASS). A review of training records disclosed the following: (1) Training in dose assessment was given in August-September 1984 to 48 operators (all either licensed or in license training). (2) Training on the Post-Accident Liquid Sample Panel was given in September-October 1984 to 38 personnel from various Chemistry groups, and training on the Post-Accident Containment Air Sampling System was given in November 1983 to 30 personnel from the Health Physics group. The content and adequacy of the PASS training will be evaluated in detail during a future inspection.
- b. (Closed) Incomplete Area [4a] (413/83-42-14, 414/83-35-14): Complete the installation and testing of the TSC emergency ventilation process radiation monitoring equipment. Installation and testing of the TSC radiation monitoring equipment was complete. This was documented as part of test procedure TP/1/B/1600/01A. Also, area radiation monitor EMF-24, located in the TSC, was completed and checked out as part of TP/1/B/1600/01B.
- c. (Closed) Incomplete Area [4b] (413/83-42-15, 414/83-35-15): Complete the installation and testing of the TSC communications system. ENS telephones were in place and tested. The licensee has provided cables and jacks for installation by NRC of HPN telephones.
- d. (Closed) Incomplete Area [6] (413/83-42-19, 414/83-35-19): Complete the decontamination facilities. Onsite decontamination facilities were evaluated during a previous inspection and found to be adequate (see NRC Report No. 50-413/84-47, paragraph 7). The inspector visited the licensee's two offsite assembly areas and examined emergency kits there which contained equipment and supplies for personnel monitoring and decontamination. Site "Bravo" (Allen Steam Station) had extensive shower facilities which drained into the licensee's own waste treatment system. In the event that vehicles arriving at either of these assembly areas were found to be contaminated, they would be washed down at a remote portion of the site or simply quarantined for later decontamination. The inspector had no further questions in this area.

- e. (Closed) Incomplete Area [7] (413/83-42-20, 414/83-35-20): Complete preparation and procurement of emergency kits and survey instruments. The inspector discussed this area with cognizant licensee representatives and examined various emergency supplies, equipment, and instruments. Licensee records indicated that all emergency kits were complete. Selected kits were inspected and appeared to be complete (relative to the inventories) and adequately stocked.
- f. (Closed - Unit 1) Incomplete Area [8a] (413/83-42-22): Complete installation, calibration, and preoperational tests of area radiation monitor (ARMs) and process monitors (PMs). Installation, calibration, and preoperational tests were found to be complete. Test procedure TP/1/B/1600/01A documented testing of the PMs. TP/1/B/1600/01B documented testing of the ARMs.
- g. (Closed - Unit 1) Incomplete Area [8b] (413/83-42-23): Complete the installation, calibration, and preoperational tests of the high-range containment and steam-line monitors. Installation, calibration, and testing was completed and documented by test procedure TP/1/B/1600/01B for the steam-line monitors and by procedures IP/O/A/3314/04 and TP/1/B/1600/01A for the calibration and testing, respectively, of the containment high-range radiation monitors. However, the inspector noted that the readouts for the steam-line radiation monitors had labels indicating just numbers (because of an apparent shortage of space on the panel) instead of clearly identifying the monitors and/or the measured parameters. The licensee agreed to consider improving the identifiability of these readouts.

Inspector Follow-up Item (413/84-98-02, 414/84-44-02): Specific relabeling of meters in the Control Room for EMF-26 through -29 (steam-line radiation monitors).

- h. (Closed - Unit 1) Incomplete Area [9] (413/83-42-26): Nonradiation process monitors. Nonradiation process monitors were found to be installed and in service for Unit 1. This included steam generator levels, feedwater storage tank levels, pressurizer temperatures and pressures, primary loop temperatures and pressures, containment pressure, boric acid tank levels, Control Room ventilation intake chlorine monitors, and the seismic monitoring system.
- i. (Closed) Incomplete Area [10a] (413/83-42-27, 414/83-35-27): Install, make operational, and calibrate the meteorological tower sensors and associated equipment. The licensee's meteorological system was found to be installed, calibrated, and in service. Since the 1983 appraisal, this system has been upgraded using a Class A model as proposed and documented in a letter/report of February 21, 1983, from H. B. Tucker of Duke Power to H. R. Denton of NRC. The system as installed exceeded the requirements of the Technical Specification and was summarized as follows: wind speed and direction measured at high (768'10") and low (661'10") levels, delta temperature, ambient air temperature, dew point temperature, and standard deviation of wind

direction (sigma-theta). Further, an improved "tipping-bucket" type precipitation gauge has been installed with heaters and processor. The recorder for the system has been upgraded to a more accurate model (Leeds and Northrup 250). An uninterruptible power supply for the meteorological tower signal-conditioning equipment has been installed (battery-backed inverter). Strip heaters were installed on tower wind instrumentation to prevent freezing. Spare parts were available as part of the CNS spare-parts system. Lightning protection devices were installed in the meteorological tower power supplies and systems. Backup meteorological data was available from Douglas Airport. A log for documentation of system operation, maintenance, and calibration checks was kept near the meteorological computer (where calibration checks are made) in the Control Room. This system was placed in operation using IPs as follows:

IP/O/B/3343/09, wind direction channels
 IP/O/B/3343/10, wind speed channels
 IP/O/B/3343/07, temperature/delta-temperature channels
 IP/O/B/3343/01, weekly calibration check procedure

- j. (Closed) Incomplete Area [10c] (413/83-42-29, 414/83-35-29): Establish a program to ensure that data availability goals are met. The upgraded meteorological system was found to be installed and operational (see paragraph 4i). Lack of a backup power system was corrected by installation of a battery-backed inverter at the meteorological building. Factors such as lightning and severe weather (icing) protection, redundant power supplies, servicing frequency, spare parts, backup system, calibration periodicity, and required procedures were found to be in accordance with Regulatory Guide 1.23, Section 5. The inspector noted, however, that the normal power supply for the meteorological computer and recorders in the Control Room was from Motor Control Center SMXC, which supplies normal auxiliary lighting. In the event of loss of offsite power or nonvital power, this power supply would be lost and not restored as part of normal "vital" loads supplied from battery backup. The licensee agreed to consider an upgrade in this area.

Inspector Follow-up Item (413/84-98-01, 414/84-44-C1): Providing a backup power supply for the Control Room meteorological equipment to improve availability of meteorological data.

- k. (Closed) Incomplete Area [10d] (413/83-42-30, 414/83-35-30): Ensure ability to transfer data from the OAC system to the VAX system. Data transfer from the OAC to the VAX system had been tested and demonstrated, and personnel had received appropriate training in this data-transfer process.
- l. (Closed) Incomplete Area [15] (413/83-42-38, 414/83-35-38): Assessment actions. The licensee's procedures, flow charts, and training were reviewed and found to provide adequate accident assessment capability. Walkthroughs with operations personnel (as documented in NRC Report

Nos. 50-413/84-54 and 50-414/84-24) and review of annual exercise performance also supported this finding. Based on the above, this area of the licensee's program appeared to be adequate.

- m. (Closed) Improvement Item [12] (413/83-42-40, 414/83-35-40): Providing sufficient equipment for all Field Monitoring Teams. The inspector observed that five complete Field Monitoring kits were available for use. (See also paragraph 4e above.)
- n. (Closed) Improvement Item [14] (413/83-42-42, 414/83-35-42): Modifying procedures to include (1) verifying presence in the plume, (2) locating keys, (3) reading the "in-flow" face of the cartridge, (4) purging the cartridge, and (5) verifying operability of the analytical equipment with the mock iodine source Ba-133 instead of Na-22. Item (1) is adequately addressed in HP/O/B/1009/04. Item (2) is covered by the inclusion in the Field Monitoring Kits of a master key to the licensee's sampling stations. Items (3) and (4) are addressed in HP/O/B/1009/07. The licensee has produced an acceptable argument rejecting the suggestion of item (5).
- o. (Closed) Incomplete Area [16] (413/83-42-53, 414/83-35-53): Complete the development of the Class A dose assessment model and make it available for the use of dose assessment personnel. The Class A model was operational, and dose assessment personnel have been autodidactically gaining familiarity with its use.
- p. (Closed) Improvement Item [27] (413/83-42-60, 414/83-35-60): Clarify the authorization and distribution of KI. The inspector reviewed applicable procedures (HP/O/B/1009/04, /05, /07, and /16) and discussed this matter with a licensee representative. The previous inconsistencies among these procedures have been corrected.
- q. (Closed) Deficiency [8] (413/83-42-65, 414/83-35-65): Define unambiguously the responsibilities of Security personnel during emergencies. A previous inspection (NRC Report Nos. 50-413/84-54 and 50-414/84-24) determined that this area had been satisfactorily resolved except for one issue: Review of CNS Directives 3.8.4 ("Onsite Emergency Organization") and 3.0.7 ("Site Assembly/Evacuation") showed that they have not been revised to consider the radiological protection of Security personnel remaining onsite following a site evacuation. Revision 8, dated August 15, 1984, to CNS Directive 3.8.4 (TS) has been revised to include step 5.4.1, stating that Group Superintendents shall develop lists of essential personnel that will stay onsite, and step 5.4.2, stating that Health Physics shall determine the habitability of the TSC and Control Room for the protection of station personnel remaining onsite after the site evacuation. Further, CNS Directive 3.0.7 (TS), revision 3, dated June 8, 1984, included almost identical steps to those of CNS Directive 3.8.4. These steps included the radiological protection of Security personnel remaining onsite after an evacuation.

- r. (Closed) Incomplete Area [17a] (413/83-42-67, 414/83-35-67): Implement the program for annual review of the Emergency Plan (EP) and Emergency Plan Implementing Procedures (EPIPs) as provided for in PT/O/B/4600/07. The inspector reviewed records which indicated that the procedure in question was implemented; the first annual review of the EP and EPIPs under the requirements of PT/O/B/4600/07 was begun July 17, 1984 and completed August 20, 1984.
- s. (Closed) Incomplete Area [17b] (413/83-42-68, 414/83-35-68): Implement the program for verification of the phone numbers listed in the EPIPs as required by PT/O/B/4600/05. The inspector verified that the procedure in question was implemented in June 1984.
- t. (OPEN) Incomplete Area [18b] (413/83-42-71, 414/83-35-71): Place emergency signs at boat docks and other applicable locations. The inspector noted conspicuous signs providing emergency information at several boat docks and landings in the area around CNS. However, the signs made no reference to the nature of the emergency for which actions were prescribed. In addition, no arrangements had yet been made for providing emergency information to visitors at Carowinds Theme Park. The licensee was ordered on September 18, 1984, by the Atomic Safety and Licensing Board, to provide corrective actions for the above-listed inadequacies. These will be reviewed during a future inspection.