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

Report No. 50-261/81-28

Licensee: Carolina Power and Light Company
411 Fayetteville Street
Raleigh, NC 27602

Facility Name: H. B. Robinson

Docket No. 50-261

License No. DPR-23

Inspection at H. B. Robinson site near Hartsville, South Carolina

Inspectors: C. R. McFarland — 1-29-82
C. R. McFarland — Date Signed

R K Roemmich — 1-29-82
R. K. Roemmich — Date Signed

Approved by: G. R. Jenkins — 1/29/82
G. R. Jenkins, Section Chief, EPPS Branch — Date Signed

SUMMARY

Inspection on December 14-15, 1981

Areas Inspected

This routine, announced inspection involved 26 inspector-hours on site in the areas of observing a small scale radiological emergency exercise on December 15, 1981, including a review of licensee actions in response to the Region II letter dated March 31, 1981, Confirmation of Actions on Emergency Preparedness.

Results

In the areas inspected, no violations or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

*B. J. Furr, Vice President, Nuclear Operations
*R. B. Starkey, Jr., General Manager
*C. W. Crawford, Manager, Operations and Maintenance
*R. G. Black, Director, Emergency Preparedness
*C. L. Wright, Specialist, Regulatory Compliance
*J. M. Curley, Manager, Technical Support
D. S. Crocker, Environmental and Radiation Control Supervisor
*R. Connolly, Director, Nuclear Safety and Quality Assurance, Assistant to Plant Manager
*D. E. Gainey, Specialist, Emergency Planning
*J. R. Bohannon, Jr., Manager, Training

Other licensee employees contacted included 2 health physicists, 2 engineers and 4 environmental specialists.

NRC Resident Inspector

*S. P. Weise

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 15, 1981 with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

a. Confirmation of Action Letter

On March 31, 1981 Region II issued a Confirmation of Action Letter (CAL) relative to actions that the licensee would undertake to correct the apparent deficiencies in the emergency preparedness program as reported by the Region II inspectors that observed the emergency preparedness full scale exercise on March 11-12, 1981 at H. B. Robinson (see IE Report 50-261/81-6 dated April 22, 1981.) The licensee's response to Region II dated May 5, 1981 was reviewed with the Director, Emergency Preparedness, and the following information was obtained:

(1) CAL Item - 1 Plant Emergency Procedure (PEP) 2.16, 2.17 and 2.18 have been added after reassessing the functional concepts of the TSC and EOF.

(2) CAL Item - 2a Two emergency offsite monitoring teams have been established and two designated emergency kits are stored for them in the TSC utility rooms.

(3) CAL Item - 2b Prompt deployment of the offsite monitoring teams is administered through provisions in procedures PEP 2.6.4 and 2.6.6.

(4) CAL Item - 2c The use of proper survey meters to locate and monitor a radioactive plume is administered through provisions in procedure PEP 2.6.4.

(5) CAL Item - 2d The detailed procedures and the required analytical equipment for collecting and analyzing air samples in the field is administered through provisions in procedure PEP 2.6.4. Silver zeolite iodine cartridges are to be used for measuring radioiodine concentrations as low as 1E-7 microcuries per cubic centimeter.

(6) CAL Item - 3 The licensee's capability to perform prompt and accurate offsite dose assessments is addressed in the series of procedures PEP 3.4, 3.5, and 3.6.

The above items were in use during the December 15, 1981 exercise. An evaluation of the revised procedures, the new or modified equipment and the implementation of the procedures will be made during a later appraisal of the emergency preparedness program at H. B. Robinson facility.

b. Inspector Followup Item (IFI) 50-261/81-06-01, Activition of the Technical Support Center (TSC). Plant Emergency Procedure (PEP) 2.3, Emergency Control - Alert, section 3.4.3 has been revised to require that the TSC be activiated when an emergency event is classified as an "Alert". The TSC staff is notified of each "Unusual Event" and placed in a standby status for service in the TSC if the emergency classification is upgraded to an "Alert". This item is closed.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Exercise Scenario

The emergency exercise scenario, developed by the licensee, met the requirements of 10 CFR 50.47(b)(14), 10 CFR 50, Appendix E, paragraph IV.F and specific criteria of NUREG 0654, Section N.3 and provided for a sequence of simulated events beginning with an Unusual Event and progressing through sequentially escalating classes to a Site Area Emergency. The sequence of simulated events provided for the mobilization of the licensee's emergency organization onsite.

The exercise scenario included the following postulated emergency conditions:

a. Increasing radiation levels at the discharge of the waste condensate tank and the release of an unanalyzed radiological source initiated an "Unusual Event".

b. Coolant samples indicated a steam generator primary to secondary leak that increased such that the steam line and stack readings indicated a radiation release to the environment and the event was classified an "Alert".

c. Pressurizer level and pressure decreased such that the reactor tripped on low pressurizer pressure. Loss of offsite power occured and the event was classified a "Site Emergency".

d. The diesel generators were brought up to speed and the safety injection system was activated; natural circulation was in progress. The reactor coolant pumps were started after the offsite power was restarted. "Recovery" was declared and the exercise was terminated when plant conditions were back to normal.

6. Assignment of Responsibility

This area was observed to determine that primary responsibilities for emergency response by the licensee have been specifically established and that adequate staff is 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 specific assignments had been made for the licensee's emergency response organization and there was adequate staff available to respond to the simulated emergency. At the start of the exercise the Shift Foreman in the Control Room activated the Radiological Emergency Plan (the Plan), assumed the Site Emergency Coordinator (SEC) responsibilities, made the initial classification of the emergency to be an" Unusual Event" at 8:05 a.m. and ensured that the required onsite notifications were made. The appropriate onsite and corporate emergency personnel were placed on standby. The General Manager activated the Technical Support Center (TSC) and the Operations Support Center (OSC) and the responsibilities as the SEC were properly transferred from the Shift Foreman to the General Manager at the TSC at 9:05 a.m. The OSC was located in an area adjacent to the TSC and the OSC support teams were observed to report their evaluations of the exercise messages and drill cards to the appropriate directors in the TSC. The Vice President, Nuclear Operations, activated the Emergency Operations Facility (EOF) and at 10:49 a.m. assumed the responsibilities as the Emergency Response Manager (ERM). The EOF staff directed the offsite monitoring teams and the onsite corrective actions and repair work.

The above assignments of responsibilities were observed to be in accordance with section 4 of the Plan and PEP's 1.0 Plant Emergency Procedures Introduction; 1.1 Manual Purpose and Use; 1.2 Emergency Organization; 2.1, Initial Emergency Actions; 2.2, Emergency Control - Unusual Event; 2.3, Emergency Control - Alert; and 2.4, Emergency Control - Site Emergency. The inspectors had no further questions in this area.

7. Onsite Emergency Organization

The licensee's onsite emergency organization was observed to determine that the responsibilities for emergency response are unambigously defined, that adequate staffing is provided to insure initial facility accident response in key functional areas at all times, and that the interfaces among various onsite response activities and offsite support activities are 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 observed that the initial and augmented onsite emergency organization was well defined and that adequate staff was available to fill key functional positions as described by Section 3 of the Plan and PEP 1.2, Emergency Organization. The interfaces among the onsite response activities and offsite corporate support activities appeared to be well established and no deficiencies were observed in this area. The inspectors had no further questions concerning the onsite organization.

8. Emergency Response Support and Resources

This area was not exercised. No offsite assistance resources or government agencies participated in this small scale exercise.

9. Emergency Classification System

This area was observed to determine that a standard emergency classification and action level scheme is 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.

The inspectors observed that the emergency classification system was in effect as stated in Section 2 of the Plan and in implementing procedures PEP 2.1 through 2.4. The system appeared to be adequate for the classification of the simulated accident and provided initial and continuing mitigating actions taken during the simulated emergency. The inspectors had no further questions in this area.

10. Notification Methods and Procedures

This area was not exercised. No offsite organizations participated in this small scale exercise.

11. Emergency Communications

This area was observed to determine that provisions exist 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.

The inspectors verified that primary and alternate means for communications among the various response organizations were provided and that, in general, communications among the onsite emergency response personnel was good. The inspectors had no further questions in this area.

12. Emergency Facilities and Equipment

This area was observed to determine that adequate emergency facilities and equipment to support an emergency response are 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 that the emergency facilities provided to support the emergency organization were adequate and appeared to function well throughout the exercise. These facilities included the Technical Support Center, the Operations Support Center, the Emergency Operations Facility and the Media Center. Visual and decisional aids in the TSC, OSC and EOF were used effectively for tracking historical accident information, plant status and for decision making concerning mitigating actions to be taken in the simulated emergency. The need for larger visual aids was discussed at the exit meeting. The inspector had no further questions in this area.

13. Accident Assessment

This area was observed to determine that adequate methods, systems and equipment for assessing and monitoring actual or potential offsite consequence of a radiological emergency condition are 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.

The accident assessment program includes both an engineering assessment of plant status and an assessment of the radiological hazards to both onsite and offsite personnel resulting from the accident. The engineering accident assessment team functioned to analyze the plant equipment status during the accident and to make recommendations to the Site Emergency Director concerning mitigating actions to reduce damage to plant equipment, to prevent further releases of radioactive materials and to terminate the emergency condition. The radiological assessment group provided continuous updates on inplant radiation hazards and potential releases of radioactive materials. This group was supplemented by field teams prepared to measure actual radiation levels during releases of radioactive materials.

The inspectors observed the actions of the accident assessment teams and field monitoring teams and concluded that the teams performed adequately and

provided timely and accurate information to the emergency organization. The inspectors had no further questions in this area.

14. Radiological Exposure Control

This area was observed to determine that means for controlling radiological exposures, in an emergency, are established and implemented for emergency workers and that they include exposure guidelines consistent witht EPA Emergency Worker and Lifesaving Activity Protective Action Guides as required by 10 CFR 50.47(b)(11) and specific criteria in NUREG 0654, Section II.K.

The inspectors observed that exposure control measures were utilized throughout the exercise. Radiation surveys were conducted in the emergency facilities on a routine basis. Offsite surveys were conducted downwind from the plant during the simulated release of radioactive materials. Exposure guidelines contained in Section 4 of the Plan were considered in emergency team operations.

The location of the offsite monitoring teams were plotted at the OSC and the EOF and the locations and results were recorded. Isopleths were used at the EOF for noting the location of the simulated plume. The inspectors had no further questions in this area.

15. Exercise Critique

a. CP&L

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.F, and specific criteria in NUREG 0654, Section II.N.

A formal CP&L critique of the emergency exercise was held on December 15, 1981 with all controllers, key exercise participants, licensee management and NRC personnel attending. CP&L utilized 25 persons for the evaluation of the exercise. Deficiencies and weaknesses in the exercise were identified. These items and the followup corrective actions will be documented by CP&L. Followup of the corrective actions taken by CP&L for identified deficiencies and weaknesses will be accomplished through subsequent NRC inspections. (50-261/81-28-01).

b. NRC

Following the exercise a critique was held by the NRC with licensee personnel to review the emergency response capabilities of the licensee. Licensee representatives identified the major areas needing

improvement that were identified by the inspectors. Improvements since the March 11, 12, 1981 exercise were noted.