U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/84-35(DRSS)

Docket No. 50-483 License No. NPF-25

Licensee: Union Electric Company
Post Office Box 149
St. Louis, MO 63166

Facility Name: Callaway County Nuclear Station

Inspection At: Callaway Site, Callaway County, MO

Inspection Conducted: July 31 through August 2, 1984

Inspectors: P. C. Lovendale for — 8/23/84 Date

N. A. Nicholson — 8/23/84 Date

Approved By: L. R. Greger, Chief — 8/23/84 Date
Facilities Radiation
Protection Section

Inspection Summary:

Inspection on July 31 through August 2, 1984 (Report No. 50-483/84-35(DRSS))
Areas Inspected: Routine, announced inspection of startup radiation protection and radwaste programs, open items, radiation protection general employee training, filter systems, and certain TMI Action Plan items. The inspection involved 42 inspector-hours on site by two NRC inspectors.
Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

*M. Evans, Training Supervisor
*S. Growcock, QA Scientist
*G. Hamilton, Radwaste Engineer
*J. Peevy, Health Physics Superintendent
*J. Polchow, Health Physics Operations Supervisor
D. Poole, Consultant
G. Randolph, Assistant Manager, Technical Services
J. Ridgel, Radwaste Supervisor
*R. Roselius, Health Physics Technical Supervisor
V. Shanks, Chemistry Superintendent

B. Little, NRC Senior Resident Inspector - Operations
J. Neisler, NRC Senior Resident Inspector - Construction

The inspectors also contacted other licensee employees including training instructors, radiation/chemistry foremen, radiation/chemistry technicians, and members of the engineering staff.

*Denotes those present at the exit meeting.

2. General

This startup inspection, which began at 8:00 a.m. on July 31, 1984, was conducted to examine startup activities related to the radiation protection and radwaste programs, open items, training, and certain NUREG-0737 items. During facility tours, the inspectors noted that radiation protection facilities, supplies, and equipment were prepared for startup. Housekeeping was generally very good.

3. Licensee Action on Previous Inspection Findings

(CLOSED) Open Item (483/83-10-02): Unnecessary bends in effluent air monitoring sample lines. The licensee has completed the needed testing to determine sample line particulate plateout under normal and accident sampling conditions. The resulting factors will be applied when evaluating the Unit Vent Wide-Range Air Monitor samples. Concerns related to iodine sample line plateout losses are discussed in Section 9.

(OPEN) Open Item (483/84-16-06): Determine if post accident sampling system (PASS) backup samples can be collected within GDC-19 dose guidelines and determine access route for collecting samples. The inspector reviewed the licensee's time and motion study dated April 27, 1984. The study shows that a PASS backup sample can be collected within about ten percent of the GDC-19 whole body limit of five rems. The licensee's established access route for collection of PASS backup samples requires passage through Door No. 33044 from the turbine building to the

auxiliary building. Currently this door can only be opened from the auxiliary building side, and must be modified to allow access from the turbine building side. The needed modification has been approved and should be completed in the near future.

(OPEN) Open Item (483/84-30-01): Possible unmonitored liquid release pathway near the letdown heat exchanger. The inspector observed that the letdown heat exchanger is located only a few feet from the seismic isolation joint between the reactor building and auxiliary building. It appears that a large water leak from the letdown heat exchanger or surrounding piping could result in water seeping through the seismic isolation joint to the environment (backfill under the plant). The licensee agreed to review this matter and determine what steps should be taken to prevent any release via this pathway. This matter was discussed during the exit meeting.

4. Employee Radiation Protection Training

An inspector attended the one and one-half day radiation worker training conducted by the training department staff. Two sessions are given commensurate with job responsibilities. Employees entering the protected area take Rad Worker Category I training which addresses radiation theory, health physics programs, and limits. Rad Worker Category II training, covering health physics practices and plant policies, is given to persons entering the radiological controlled area. Descriptive and well organized training booklets, given to students in each session, are closely followed during class presentations and used for future reference. The inspector noted the instructor described numerous practical working examples to illustrate lecture points. This training meets 10 CFR 19.12 requirements.

A test is given at the end of each session; a passing score of 70% is required. Those failing are retested after a minimum one-day self-study period; if the retest is failed, the individual must retake the classroom session and test. Licensee representatives estimate an average failure rate of 4-5% per month. The inspector reviewed 1984 test questions and results; most failing scores were in the 60% range. According to licensee representatives, radiation workers with Westinghouse or INPO training cards can test out of the Category I and II training; a passing score of 80% is required.

The licensee is developing and implementing their training sessions in accordance with INPO guidelines. The inspectors noted that the detailed material presented could cause some attendees to lose interest and overlook the more critical health physics practices training, although good class participation was observed. This was discussed at the exit meeting.

No violations or deviations were identified.

5. Biological Shield Test

The inspectors reviewed the licensee's plans for performing radiation surveys of accessible areas of the plant during startup and ascension to power. Engineering Test Procedure ETT-ZZ-07160, "Biological Shield

Test," will be conducted to determine if any snielding deficiencies exist. The inspector reviewed the procedure content and discussed the planned conduct of the surveys with the Health Physics Operations Supervisor. No problems were noted.

No violation or deviations were identified.

6. Health Physics Management Change

The Health Physics Technical Supervisor, Mr. Pat Walsh, terminated employment with the licensee in June 1984. The Health Physics Operations Supervisor, Mr. Ron Roselius, was named the Health Physics Technical Supervisor and Mr. Jay Polchow was named Health Physics Operations Supervisor (HPOs). The person filling the HPOs position acts as the plant Radiation Protection Manager (RPM) in the absence of the Health Physics Superintendent. A review of Mr. Polchow's qualifications revealed that he has about sixteen years of applicable experience in health physics from the Naval Nuclear Power Program and the Callaway Plant. In addition, Mr. Polchow participated in a refueling outage at the Farley Plant and has attended numerous training courses including the Oak Ridge Associated Universities Applied Health Physics Course (5 wks), and Callaway Rad/Chem technician training. Based on the above, it appears Mr. Polchow has the qualifications needed to serve as backup RPM in the absence of the Health Physics Superintendent.

No violations or deviations were identified.

7. Licensee Event Report (LER)

At the request of the Senior Resident Inspector, the inspectors reviewed LER 84-006, Revision 1, dated July 25, 1984. On June 10, 1984, the sample pump for the Unit Vent Wide Range Gas Monitor (WRGM) was turned off due to operator error and remained off for about six and one-half hours. During this period, the continuous sampling for iodine and particulate activity required by Technical Specification 3.3.3.10 was not performed. The apparent cause of the event was miscommunication between health physics personnel and control room operators concerning which monitor was malfunctioning, and the shift supervisor's incorrect interpretation of the technical specification action statement.

The licensee's corrective actions included issuance of an alarm response procedure for RM-11 and RM-23 radiation monitor control and display modules, retraining of operations personnel, initiation of a design change for audible alarms, and reflash capability for monitor failures.

No problems were noted regarding the licensee's reporting and corrective actions related to this event.

9. NUREG-0737 Item II.F.1.2, Sampling and Analysis of Iodine and Particulate Effluents

As noted in Section 3, particulate line loss correction factors for the General Atomic Wide Range Gas Monitor have been determined. However, iodine line loss correction factors have not been determined and these

losses may be quite high due to sample line size and design flow rates. This matter was discussed during the exit meeting and will be reviewed during a future inspection. (483/84-35-01)

10. High Radiation Area Key Control

During this inspection, the licensee expressed concern over an existing commitment to the NRC regarding control and issuance of keys for opening plant vital area doors. The licensee had previously stated that for emergency access purposes, keys to all vital area doors would be carried by the on-shift equipment operators. Several of these doors lead to areas which will likely become high radiation areas in excess of one rem/hr. For personal radiation safety reasons, the licensee has now decided not to issue the keys to any areas greater than one rem/hr unless needed to perform a specific task, under access controls established by health physics personnel. In a letter to NRC Region III dated August 2, 1984, the licensee expressed their intention to modify their previous commitment regarding vital area key control for the seven doors which lead to areas greater than one rem/hr such that keys to those doors would not be issued without a specific need. No problems were noted.

11. IE Information Notices

The inspectors reviewed licensee action taken in response to selected IE Information Notices:

IE Information Notice No. 82-31: Overexposure of Diver During Work in Fuel Storage Pool. Health physics personnel were aware of the contents of this notice and stated that the necessary monitoring equipment and procedures would be available before any diving operations into radioactive water occur.

IE Information Notice No. 81-26, Part 3, Supplement 1: Clarification of Placement of Personal Monitoring Devices for External Radiation: Based on discussions with health physics personnel, it appears the licensee has a good understanding of dosimetry placement requirements.

12. Filter Housing Installations

The inspectors briefly reviewed the licensee's filter housing drain, deluge, and absorber cooling systems. Each filter housing chamber has a drain line which is valved and capped. If needed, the pipe cap would have to be removed, a hose would have to be attached to the drain pipe and routed to a nearby radwaste system floor drain, and the isolation valve opened. Based on the above, it appears these drains do not represent potential bypass pathways around the filters and meet this general design criteria of Regulatory Guide 1.52, Revision 2, March 1978 (Regulatory Position 3.h) and Regulatory Guide 1.140, Revision 1, October 1979 (Regulatory Position 3.e).

To operate the filter housing deluge system, a nearby fire hose must be connected to the filter housing and then pressurized. It was not clear how or when the licensee would begin draining the filter housing after deluge system actuation to preclude flooding the connected ducting.

Flooding the ducting could cause an unnecessary spread of contaminated water throughout the plant. This matter was discussed during the exit meeting and will be reviewed during a future inspection (483/84-35-02). The acceptability of using a fire hose to supply water to the deluge system will be reviewed by a fire protection specialist during a future inspection (483/84-35-03).

Regulatory Position 3.k of Regulatory Guide 1.52 recommends that the design of adsorber sections include a method for limiting desorption of iodine due to high temperatures. It could not be readily determined how this regulatory position has been satisfied at Callaway. This matter was discussed during the exit meeting and will be reviewed further during a future inspection (483/84-35-04).

13. Transportation QA Program

In a letter from the licensee to NMSS dated May 21, 1984, the licensee notified the NRC that transport package quality assurance would be included under the licensee's Appendix B, Part 50, Quality Assurance Program. The inspectors reviewed the licensee's practices and procedures related to the packaging and transport of radioactive materials and determined that in accordance with 10 CFR 71.101(f), the licensee's Appendix B, Part 50, Quality Assurance Program has been established, maintained, and executed with regard to transportation activities.

No violations or deviations were identified.

14. Exit Meeting

The inspectors met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on August 2, 1984. Further discussions were conducted during telephone conversations on August 6 and 8, 1984, between an inspector and licensee management. The inspectors summarized the scope and findings of the inspection. In response to certain matters discussed by the inspectors, the licensee:

a. Stated the alleged unmonitored release pathway via the seismic isolation joint near the letdown heat exchanger would be reviewed to determine what steps can be taken to prevent any releases via this pathway. (Section 3)

b. Stated that NRR would be notified regarding their inability to determine line loss correction factors for the Unit Vent WRGM iodine sampler. This notification will be in the form of a request for deviation from NUREG-0737 Item II.F.1, Supplement 2. (Section 9)

c. Stated operation of the filter housing deluge system would be reviewed to determine how flooding of adjacent ducting would be prevented. (Section 12)

d. Stated that the method for limiting radioactivity-induced heat in the adsorbers of engineered safety feature filter systems would be determined and compared with the recommendations of Regulatory Position 3.k in Regulatory Guide 1.52. (Section 12)