

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/82-07(DEPOS)

Docket No. 50-483

License No. CPPR-139

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

Facility Name: Callaway Plant, Unit 1

Inspection At: Callaway Site, Reform, MO

Inspection Conducted: August 9-12, 25, 1982

Inspector: *M. J. Oestmann*  
M. J. Oestmann

9/8/82

Approved By: *M. Schumacher*  
M. Schumacher, Chief  
Independent Measurements and  
Environmental Protection Section

9/8/82

Inspection Summary

Inspection on August 9-12, 25, 1982 (Report No. 50-483/82-07(DEPOS))

Areas Inspected: Routine announced safety inspection of the Environmental Protection Program including: management controls; environmental program implementation, results and internal audits; placement of NRC thermoluminescent dosimeters with assistance from State of Missouri and licensee personnel in inner and outer ring network about the nuclear plant; and a tour of the site construction and laboratory activities. The confirmatory measurements inspection program was discussed. The inspection involved 25 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

## DETAILS

### 1. Persons Contacted

#### Licensee Personnel

- W. Weber, Plant Manager, Construction (UE)
- S. Miltenberger, Plant Manager, Operations (UE)
- R. L. Powers, Superintendent Site QA (UE)
- a R. Veatch, Supervisor Engineer, QA Construction (UE)
- a J. McGraw, Supervisor Engineer, Construction (UE)
- a V. Polowy, Assistant Engineer, Construction (UE)
- a G. L. Randolph, Assistant Manager, Technical Services (UE)
- a J. R. Peevy, Supervisor, Radiation Protection (UE)
- a R. Grundstrom, Health Physicist (UE)
- a M. Reinhart, QA Consultant (UE)
- K. L. Gilliam, Rad Chem Technician (UE)
- b B. Holderness, Health Physicist, Nuclear Engineering, Corporate Headquarters (UE)
- V. Shanks, Supervisor, Chemistry (UE)
- R. Roselius, Supervisor, Health Physics Operations

#### Other Personnel

- K. Miller, Administrator, Bureau of Radiological Health, Division of Health, State of Missouri, Jefferson City, MO
- G. McNutt, Health Physicist, Bureau of Radiological Health, Division of Health, State of Missouri, Jefferson City, MO
- a D. Smart, Environmental Coordinator, (DIC)
- a G. M. Warblow, Services Manager (DIC)

The inspector also interviewed several other licensee personnel during the course of the inspection including chemical and engineering personnel.

UE - Union Electric

DIC - Daniel International Corporation

a Denotes those present at the exit interview on August 12, 1982.

b Denotes the licensee personnel present during telephone conversation on August 25, 1982.

### 2. Licensee Action on Previous Inspection Findings

- a. (Closed) Item of Noncompliance (50-483/80-17-01): Unauthorized solid waste and garbage burning observed by inspectors. During a tour of the site during this inspection, the NRC inspector observed no burning of solid waste or garbage in the new or old land fill areas. The licensee has obtained a permit from the Missouri State Department of Natural Resources on July 30, 1981, approving open burning of untreated wood waste within the fenced area of the Callaway site. The Environmental Coordinator for the licensee's contractor, DIC, has observed no unauthorized burning of garbage or waste during his weekly tours of the site. This is

documented in his monthly environmental reports prepared in accordance with Section 4.2 of the licensee's Environmental Protection Program - Construction Stage (EPP-CS), Revision 3, dated August 19, 1980. This item is considered closed.

- b. (Closed) Item of Noncompliance (50-483/80-17-02): The inspector reviewed the licensee's corrective action and noted that these parameters are currently being monitored in the licensee's pre-operational monitoring program. No problems were observed. This item is considered closed.
- c. (Closed) Item of Noncompliance (50-483/80-17-03): Failure to monitor discharge flow from the site settling ponds. Flow monitoring devices were installed following this citation. However, extensive maintenance problems were experienced with these devices and the applicable work procedure (WP-702) was revised on November 20, 1981 to delete their use. A method involving visual observation of pond overflow, pond water level, pond area, and rainfall data was substituted. The inspector reviewed licensee records of discharge for 1980-81 calculated on this basis. This item is considered closed.
- d. (Closed) Open Item (50-483/80-17-04): Issuance of an amendment to Paragraph 3.E(7) of the Construction Permit regarding aquatic ecology monitoring programs. The licensee obtained relief from Paragraph 3.E(7) regarding the nonradiological aquatic monitoring program, from the Office of Nuclear Reactor Regulation (NRR) on May 12, 1981. The licensee is continuing this preoperational program under the State of Missouri NPDES permit. This item is considered closed.

### 3. Management Control and Internal Audit

The inspector reviewed the licensee's administrative controls for implementation of the environmental protection requirements for construction and preoperational monitoring. These requirements are presented in the CP, the licensee's Environmental Report (ER-OL) and Environmental Protection Program-Construction Stage (EPP-CS), Revision 3 (dated August 19, 1980) and the NRC's Final Environmental Statements (FES) for construction and operation.

Overall responsibility of environmental program management relating to the site rests with the Union Electric Vice President-Nuclear, with the Manager-Nuclear Engineering having the responsibility of supervising these programs, including contract consulting activities. The review included examination of the Administrative Procedure, AP-II-07, Revision 1, dated December 17, 1980, which describes the assignment of program responsibilities and implementation by the licensee's contractor, DIC. No problems in management controls were identified.

The licensee conducted a management audit of DIC's implementation of the environmental protection program on January 29-30, 1981, and identified two findings and four general observations which were

closed out on February 17, 1981, by DIC in response to the audit. The licensee agreed to conduct a followup environmental audit in September 1982. (Open Item 50-483/82-07-01)

No items of noncompliance or deviations were identified.

4. Environmental Programs

a. Placement of NRC Thermoluminescent Dosimeters (TLDs)

On August 10, 1982, the inspector, with assistance from the Missouri Department of Health (DOH) and licensee personnel, placed 40 TLDs to monitor gross gamma radiation in the 16 sectors of the compass in an inner and outer ring surveillance network around the plant site in accordance with NRC guidelines. The Missouri DOH has agreed to exchange TLDs on a quarterly schedule. The licensee also agreed to provide NRC with a map showing the locations of the licensee's TLDs in the 16 sectors surrounding the plant. (Open Item 50-483/82-07-02)

b. Radiological Environmental Monitoring Program (REMP)

The inspector reviewed the licensee's preoperational REMP. A one-year preoperational program was conducted from the summer of 1973 and continued through December 1974 to monitor selected critical pathways leading to man. The second year preoperational program was initiated on April 1, 1982, (one year prior to expected fuel load). The second year program has been expanded to include Iodine-131 analysis on green leafy vegetables, more soil sampling locations, controls for airborne and milk sampling at 10-20 miles, and Sr-89 and Sr-90 analysis for airborne, surface water, drinking water, and aquatic organisms. The REMP is described in the licensee's ER-OL and the NRC FES-OL.

The inspector reviewed the licensee's Radiation Protection Procedures RP-4710- "Calibration of Environmental Air Sampler" and RP-7010- "Collection and Shipping of Environmental Samples" (both issued July 7, 1982). Both procedures appear to be adequate. Licensee representatives stated that final selection of milk and well water sampling locations referenced in RP-7010 will be made prior to fuel load. (Open Item 50-483/82-03)

The licensee has placed in the field seven air samplers with both air particulate filters and iodine cartridges and eight air samplers with only air particulate filters. No operational problems were observed by the inspector during a tour of selected air samplers. The air samplers are calibrated at least on a six month schedule, and recalibrated if flow is not within 10% of previous rotometer readings or after required maintenance has been completed. The inspector observed current calibration stickers on each air sampler during the tour.

The licensee has placed two TLD packets at each of 35 field locations. Each packet contains two TLDs; one packet will be changed monthly and the other annually. The inspector observed that TLD packets are placed in plastic bottles on telephone poles. The inspector pointed out that the TLDs would be partially shielded by the plastic bottle in the event a radioactive airborne plume from the plant would pass by. The licensee agreed to evaluate the shielding effect of these bottles. This item will be examined during a future inspection. (Open Item 50-483/82-07-04)

During the first year of the preoperational program, the licensee arranged to have environmental samples analyzed by U.S. Testing Laboratory. Results of this program are presented in Section 6 of the ER-OL. No unusual problems were identified. During the second year (started April 1, 1982), the licensee contracted for Radiation Management Corporation (RMC) to analyze radiological environmental samples. Results for this phase have not been received.

c. Environmental Program - Construction Stage

The licensee's EPP-CS, Revision 3, dated August 19, 1980, describes the details of the licensee's environmental protection program for construction and preoperational monitoring. The inspector reviewed selected monthly environmental reports for CY 1981 and 1982 prepared by the DIC Environmental Coordinator and approved by licensee management. Any problems identified during the Coordinator's weekly inspections were handled expeditiously by DIC construction personnel and subcontractors. The Coordinator's inspection involved assurance that environmental conditions and requirements in the following work and administrative procedures are met.

<u>Procedure</u>	<u>Title</u>	<u>Issue Date</u>
WP-701	Terrestrial Monitoring, Revision 1	10/30/80
WP-702	Surface Water Quality and Aquatic Biological Preoperational Monitoring, Revision 4	11/27/81
WP-703	Monitoring of Local Wells and Selected Piezometers, Revision 2	02/11/81
WP-704	Air Quality Control, Revision 1	10/28/80
WP-705	Protection of Archeological Sites, Revision 1	03/25/81
WP-150	Waste Disposal and Landfill, Revision 2	10/19/80
WP-151	Mining Operations, Revision 0	07/23/76
WP-153	Sewage Treatment	
WP-154	Logan Creek Pipe Crossings	
WP-155	Crushing Operations	
AP-IV-15	Hazardous Waste Management for Construction Activities, Revision 0	06/11/81

These DIC procedures implement the licensee's EPP-CS which in turn implements Section 3.E of the construction permit. Selected procedures were reviewed by the inspector to assure they adequately included the CP requirements. No technical problems were found.

No items of noncompliance or deviations were identified.

5. Touring of the Site

The inspector toured the construction site to view construction activities relative to the EPP-CS and work procedures including the environmental programs referenced in the CP and the FES-OL. Specific items examined included: (1) sanitary landfills; (2) sewage treatment plant; (3) cooling tower and associated pumping stations; (4) site drainage; (5) selected areas of reseeding and planting; (6) site drainage retention ponds; and (7) various reactor buildings being constructed. Site dust control appeared satisfactory.

The inspector also visited the chemistry laboratory and counting room. Construction of the laboratory had been completed. Basic analytical equipment had been installed and water chemistry analyses were being performed. Construction of the permanent counting facility was not complete and instruments such as the liquid scintillation counter and two gamma spectrometers (with intrinsic germanium detectors) were temporarily housed in the chemistry laboratory and the health physics offices. This equipment was undergoing testing.

6. Confirmatory Measurements

The inspector described the NRC's confirmatory measurements program to licensee representatives. The inspector discussed future arrangements on providing spiked effluent samples for the licensee to analyze to demonstrate his analytical capability prior to fuel load date.

No items of noncompliance or deviations were identified.

7. Exit Interview

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection at the site on August 12, 1982. The inspector summarized the scope and findings of the inspection. The inspection findings were also discussed by telephone with a representative from the licensee's corporate headquarters (Section 1) on August 25, 1982. It was agreed that the licensee would evaluate the shielding effect of the plastic bottles on the environmental TLD badges. (Section 4c)