

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-315/80-06; 50-316/80-05

Docket No. 50-315; 50-316

License No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation
Indiana and Michigan Power Company
2 Broadway
New York, NY 10004

Facility Name: D. C. Cook Nuclear Plant, Units 1 and 2

Inspection At: D. C. Cook site

Inspection Conducted: April 21-25, 1980

Inspectors: *R. J. Greer*
R. J. Greer

R. J. Greer

R. Masse
R. Masse, Resident Inspector

T. H. Essig
T. H. Essig, Chief
Environmental and Special
Projects Section

May 12, 1980

5/12/80

5/12/80

Inspection Summary

Inspection on April 21-25, 1980 (Report No. 50-315/80-06; 50-316/80-05)

Areas Inspected: Routine, unannounced radiological environmental protection inspection, including a review of program management; a review and discussion of program results, and an observation of groundwater monitoring wells, the onsite absorption pond and various environmental sampling stations. The inspection also included visits to the Berrien County Office of Emergency Preparedness and the Saint Joseph Memorial Hospital to discuss emergency coordination. The inspection involved 32 inspector-hours on site by two NRC inspectors.

Results: For the areas inspected, no apparent items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Personnel

- *D. Shaller, Plant Manager
- *B. Svensson, Assistant Plant Manager
- *E. Smarella, Technical Supervisor
- *T. Beilman, Senior QA Auditor
- *T. Kriesel, Environmental Coordinator
- *D. Palmer, Plant Radiation Protection Supervisor
- *R. Begor, Staff Assistant
- *R. Masse, NRC Resident Inspector

*Denotes those present at exit interview.

Offsite Support Agency Personnel

- F. Thompson, Office of Emergency Preparedness, Berrien County Sheriff's Department
- R. Marquardt, Vice President of General Services, Memorial Hospital, Saint Joseph, MI

2. General

This inspection consisted of an examination of the licensee's radiological environmental protection program and included a review of program results from July 1, 1978 to December 31, 1979, a discussion of management control, and inspection of various environmental sampling stations, and the process waste lagoon.

The licensee's Appendix B Technical Specifications were utilized as the primary inspection criteria.

3. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item (050-315/79-01): missing results for various sample analyses in the 1977 Environmental Operating Report. The results of analyses for strontium 89 and 90 for various samples during 1977 were not reported in the 1977 Environmental Operating Report. The inspector verified that the results of these samples were included in the 1978 Environmental Operating Report as required by Environmental Technical Specification 4.2. The inspector has no further questions concerning this item.

4. Environmental Program Management

Management control for the radiological portion of the environmental protection program remains as described in a previous inspection report.^{1/}

^{1/} IE Inspection Report No. 50-315/77-20.



The licensee's coordination with Eberline remains as described in a previous inspection report^{2/} with the exception that strontium-89 and-90 and tritium analyses of quarterly composites of lake water are now performed by Eberline.

5. Program Results

The inspector reviewed the licensee's environmental monitoring results for the period of July 1 to December 31, 1978, which are in the licensee's 1978 Annual Environmental Operating Report. The inspector also reviewed the licensee's 1979 Annual Environmental Operating Report for the period of January 1, 1979 through December 31, 1979. The inspector noted that reasons for missing samples were documented. Except for certain samples not taken because of weather conditions, or for samples lost in the mail, all samples required were taken and properly analyzed. With the exception of the results discussed in the following paragraph, no unusual sample results or apparent trends were identified.

No items of noncompliance or deviations were noted.

6. Tritium in Groundwater Samples

The licensee's routine groundwater monitoring program (required by the Technical Specifications) consists of analyses of well water samples at seven locations for tritium every eighteen weeks, as well as other analyses. Background levels at these locations appear to be less than one pCi/ml for tritium. The licensee first noticed elevated results for tritium in November 1977. At that time, the tritium concentration in well #6 was found to be 9 ± 9 pCi/ml, relative to previous concentrations in this and other wells of about 1 pCi/ml (the minimum detectable activity). The results for a special sample collected in January 1978 was 8.4 pCi/ml. Thereafter, the licensee initiated a special monitoring program which involved monthly sampling at wells 4, 5, 6, 11, and 12, as well as the Lake Township Intake, in addition to the routine monitoring program. Tritium levels appeared to peak during 1978, and began returning to normal levels during 1979.

All tritium concentrations were less than the 10 CFR 20, Appendix B, Table II limit of 3000 pCi/ml. Two unusually high sample results for 2/12/79 and 3/13/79 at well #5 300 ± 30 pCi/ml and 1400 ± 100 pCi/ml were attributed to hydrocarbon interference with liquid scintillation counting techniques (Eberline found fuel oil present in these samples). The licensee stated that a line leading to a heating boiler fuel oil storage tank has been leaking, thus contaminating the well water samples with fuel oil (These wells cannot be used for drinking purposes). The source of the leak has been isolated, but residual oil remains in the ground and well water. These two samples^{3/} have been determined not to be indicative of actual tritium results.

^{2/} Ibid.

^{3/} Eberline Radiological Environmental Monitoring Annual Report, 1979.

The source of the tritium in the well water has been investigated by licensee personnel in Condition Report C/R 1-1-78-46. In this report, the conclusion is drawn that an overflow of a monitor tank (C/R 1-8-76-168), which was subsequently pumped to the onsite absorption pond, is the cause of the elevated tritium levels.

These matters were discussed at the exit interview.

No items of noncompliance or deviations were identified.

7. Environmental Sampling Stations

The inspector visited selected air monitoring stations and noted that with one exception equipment appeared to be functioning properly and calibrations were completed. The one exception was an air monitoring station which appeared to have a defective flow meter. The inspector discussed this apparent problem with the licensee employee. The inspectors also visited groundwater monitoring well No's. 4, 5, 6, 11 and 12, and the onsite absorption pond.

No items of noncompliance or deviations were identified.

8. Licensee Coordination with Offsite Emergency Response Agencies

The inspector met with representatives from Memorial Hospital, St. Joseph, Michigan, and the Office of Emergency Preparedness, Berrien County Sheriff's Department and discussed coordination with licensee personnel. The representative from the Office of Emergency Preparedness stated that coordination with the licensee was adequate. The representative from Memorial Hospital had a few administrative concerns to be resolved with the licensee. The inspector discussed this with the licensee representative, who agreed to call the hospital.

No items of noncompliance or deviations were identified.

9. Exit Interview

The inspectors met with licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on April 25, 1980. The inspectors summarized the purpose, scope, and findings of the inspection. In response to remarks made by the inspectors, the licensee agreed to continue the special monitoring program for tritium in groundwater at wells 4, 5, and 6 for six months.

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