U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/91016(DRS); No. 50-316/91016(DRS)

Docket Nos. 50-315; 50-316 License Nos. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation
Indiana Michigan Power Company
1 Riverside Plaza
Columbus, OH 43216

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

Inspection At: Donald C. Cook Site, Bridgman, MI 49106

Inspection Conducted: July 29 - August 2, 1991

Inspector: G. M. Hausman 8/21/91 Date

Also participating in the inspection
and contributing to the report was:

A. E. Nolan, EG&G Idaho, Inc.

Approved By: F. J. Jablonski, Chief 8-21-91 Date
Maintenance and Outage Section

Inspection Summary

Inspection on July 29 - August 2, 1991 (Reports No. 50-315/91016(DRS); No. 50-316/91016(DRS))
Areas Inspected: Special announced safety inspection of the licensee's implementation of post-accident monitoring instrumentation in accordance with Regulatory Guide (RG) 1.97, Revision 3 (Module 2515/087); SIMS Number 67.3.3 (Closed)

Results:

- The licensee had implemented a program to comply with RG 1.97.
- No violations were identified.

DETAILS

1. Principal Persons Contacted

Indiana Michigan Power Company

* A. Blind, Plant Manager
* R. Allen, Regulatory Supervisor - Maintenance
* T. Beilman, Maintenance Superintendent
  S. Farlow, Assistant Section Manager - Instrumentation and Control
* R. Kraszewski, Senior Engineer - Licensing
* T. Langlois, Project Engineer - Projects
* S. Parsons, Senior Engineer - Instrumentation and Control
  S. Richardson, Production Superintendent
* J. Sampson, Operations Superintendent
* S. Wolf, Senior Quality Assurance Auditor - Site Quality Assurance

U. S. Nuclear Regulatory Commission

* R. Roton, Resident Inspector (Palisades)

* Denotes those participating in the site exit on August 2, 1991.

Other persons were contacted as a matter of course during the inspection.

2. (Closed) Temporary Instruction (TI 2515/087) (SIMS No. 67.3.3)

The inspectors compared the installed RG 1.97 instrumentation to the commitments made in licensee correspondence related to post-accident instrumentation as described in the Indiana Michigan Power Company's (IMPCo) Donald C. Cook RG 1.97 supplemental Safety Evaluation Report (SER). References used in the assessment were:

> RG 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 3, dated May 1983.
>
> Letter AEP:NRC:0773AB, IMPCo to NRC, with attached "Status Report - Implementation Plan of Regulatory Guide 1.97, Revision 3, for the Donald C. Cook Nuclear Plant Units 1 and 2," dated October 5, 1988.
>
> SER, NRC to IMPCo, dated December 14, 1990, with Technical Evaluation Report prepared for the NRC by EG&G Idaho Inc., "Conformance to Regulatory Guide 1.97: Cook-1/-2," EGG-NTA-7282, Revision 1, dated August 1990.
>
> Letter, Gamma-Metrics to IMPCo, dated June 6, 1989.

2.1 Technical Evaluation of RG 1.97 Instrumentation

The inspectors examined the following RG 1.97 variables:

Auxiliary Feedwater Flow, Category (Cat.) 1, Type A.
Centrifugal Charging Pump Circuit Breaker Status, Cat. 1, Type A.
Centrifugal Charging Pump (CCP) Flow, Cat. 1, Type A.
Containment Area Radiation Monitor - High Range, Cat. 1, Type A.
Containment Narrow Range Pressure, Cat. 1, Type A.
Containment Sump Wide Range Water Level, Cat. 1, Type A.
Core Exit Thermocouples, Cat. 1, Type A.
Degrees of Subcooling ,Cat. 1, Type A.
Pressurizer Heater Status, Cat. 2, Type D.
Pressurizer Level, Cat. 1, Type A.
Reactor Coolant System Wide Range Pressure, Cat. 1, Type A.
Refueling Water Storage Tank Level, Cat. 1, Type A.
Safety Injection Pump Circuit Breaker Status, Cat. 1, Type A.
Safety Injection (SI) Pump Flow, Cat. 1, Type A.
Status of Standby Power, Cat. 2, Type D.
Steam Generator Narrow Range Water Level, Cat. 1, Type A.
Steam Generator Pressure, Cat. 1, Type A.

The inspectors reviewed the status of SER exceptions, environmental equipment qualification, redundancy, physical and electrical separation, power sources, instrument range, equipment identification, equipment calibration, and system interfaces for the above variables' instrumentation. The inspectors also interviewed plant personnel and inspected the RG 1.97 instrumentation in the control room to assess the implementation of the requirements delineated in RG 1.97.

The inspectors determined that there was one RG 1.97 concern as discussed in paragraph 2.3. The inspectors also discussed the inspection results with the Instrumentation and Controls Systems Branch (SICB) at NRR. Based on the above, the inspectors concluded that the licensee had implemented a program to meet the requirements of RG 1.97, Revision 3.

2.2 Status of SER Exceptions

Wide Range Steam Generator Level

In letter AEP:NRC:0773AL, dated January 30, 1991, the licensee committed to upgrade the currently installed wide range steam generator level indication consistent with the previously upgraded Category 1, RG 1.97 instrumentation starting in late 1993. The licensee stated that this work is presently ahead of schedule with the Unit 1 installation planned for the 1992 refueling outage and the Unit 2 installation scheduled for the 1993-1994 outages.

2.3 CCP and SI Pump Flow

The instrumentation channels for the CCP and SI pump flow variables are identified in RG 1.97, as Cat. 2 instrumentation. However, the licensee designated this instrumentation as Cat. 1, Type A, as such, RG 1.97 requires

that these channels meet Cat. 1 requirements for the entire channels. The licensee took an exception to this requirement that was not explicitly identified in the licensee's submittal or specifically approved by the SER. As a result, the inspectors discussed this exception with SICB at NRR and the NRC reviewing agency. Based upon those discussions, the inspectors had no further concerns.

2.4 10 CFR Part 21 on Gamma-Metrics Cable Assemblies

On May 10, 1988, Gamma-Metrics, the manufacturer of the neutron flux monitoring system installed at the Donald C. Cook Nuclear Plant, notified customers of potential leaks in soldered joints of cable assemblies. In a letter dated June 6, 1989, Gamma-Metrics field representatives certified that the cable assemblies had been field tested and repaired as necessary using approved procedures. The Gamma-Metrics inspection verified the cable assemblies to be pressure tight meeting the requirements of Gamma-Metrics qualification test reports. This item is considered complete.

3. Exit Interview

The Region III inspectors met with the licensee's representatives (denoted in Paragraph 1) during the inspection period and at the conclusion of the inspection on August 2, 1991. The inspectors summarized the scope and results of the inspection findings. The inspectors discussed the likely content of the inspection report with regard to documents or processes reviewed by the inspectors. The licensee acknowledged the information and did not indicate that any of the information disclosed during the inspection could be considered proprietary in nature.