



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

Report No.: 50-369/78-32

Docket No.: 50-369

License No.: CPPR-83

Licensee: Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Facility Name: McGuire Nuclear Station

Inspection at: McGuire Nuclear Station, Cornelius, North Carolina
and Corporate Offices at Charlotte, North Carolina

Inspection conducted: September 7-8, 1978

Inspectors: M. V. Sinkule
W. T. Cottle

Approved by: R. C. Lewis
R. C. Lewis, Chief
Reactor Projects Section No. 2
Reactor Operations and Nuclear Support Branch

9/29/78
Date

Inspection Summary

Inspection on September 7-8, 1978 (Report No. 50-369/78-32)

Areas Inspected: Routine, announced inspection to turnover NRC project inspection responsibilities for the plant test and startup phase; plant tour; and review of environmental qualifications of electrical equipment. The inspection involved 22 inspector-hours onsite by two NRC inspectors.
Results: In the areas inspected, no items of noncompliance or deviations were identified.

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DETAILS I

Prepared by:

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 M. V. Sinkule, Reactor Inspector
 Reactor Projects Section No. 2
 Reactor Operations and Nuclear
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9/24/78
 Date

W. T. Cottle
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 Date

Dates of Inspection: September 7-8, 1978

Reviewed by:

R. C. Lewis
 R. C. Lewis, Chief
 Reactor Projects Section No. 2
 Reactor Operations and Nuclear
 Support Branch

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 Date

1. Persons Contacted

- ***W. Sample, Technical Services Engineer
- **R. Rains, Superintendent of Maintenance
- R. Rider, Mechanical Maintenance Engineer
- T. McConnell, Superintendent of Technical Services
- D. Marquis, Test Coordinator
- M. Kimray, Assistant Engineer
- T. Owens, Station Chemist
- T. Keane, Station Health Physicist
- *W. Foley, Jr., Principal Engineer, Electrical Design
- *D. Sweat, Technical Specialist, Electrical Design
- *B. Burton, Engineering Specialist, Electrical Design
- *J. Thomas, Design Engineer, Electrical Design
- *P. McBride, Technical Specialist, Electrical Design
- *G. Copp, Associate Engineer

*Present at the exit interview on September 7, 1978.

**Present at the exit interview on September 8, 1978.

***Present at both exit interviews.

2. Licensee Action on Previous Inspection Findings

Not inspected.

3. Unresolved Items

None

4. Management Interview

A meeting was held at the conclusion of the inspection on September 7, 1978, at DPC Corporate Headquarters in Charlotte with licensee representatives (attendees denoted in paragraph 1). The inspector summarized the scope and findings of the inspection.

A meeting was held at the conclusion of the inspection on September 8, 1978, with the acting station manager and a member of his staff (attendees denoted in paragraph 1). The scope and findings of inspection were summarized by the inspector.

5. Tour of Facility

A tour of portions of the facility was conducted on September 8, 1978, to review status of preoperational testing and to familiarize the inspector with the layout of safety-related equipment.

No items of noncompliance or deviations were identified.

6. IE Circular 78-08

The NRC issued IE Circular 78-08 dated May 31, 1978, involving the environmental qualification of safety-related electrical equipment at Nuclear Power Plants. The inspectors conducted a meeting at Duke Power Company offices in Charlotte, North Carolina, to determine that the licensee has instituted a review program to verify environmental qualification of installed safety-related electrical equipment and that the licensee has reviewed the Circular and the references to insure that similar problems are not evident at McGuire.

As a result of questions pertaining to the environmental qualifications of safety-related electrical equipment by Nuclear Reactor Regulation (NRR), DPC has formed a task group to review the qualification documentation to insure that adequate testing has been performed and that adequate documentation is available. A licensee representative stated that the qualifications were being reviewed, as a minimum, to the requirements of IEEE Standard 323-1971, and that the overall effort of the task group was expected to be completed by February 1, 1979.

The inspector reviewed licensee responses to IE Bulletins specified in the Circular, a sample package of environmental qualification documentation and conducted discussions with licensee personnel to determine the adequacy of the licensee review program pertaining to the Circular. The items referred to in the Circular and the status of the corrective action to resolve deficiencies are discussed below:

- a. No problems have been identified as a result of the review of references specified in the Circular; although, the review of the material had not been completed prior to the inspection. A licensee representative stated that the review would be completed by October 15, 1978. This item will be reviewed during a subsequent inspection. (78-32-01)
- b. The licensee determined that the only electrical connectors for safety-related equipment subject to LOCA or Steam Line Break conditions were on the containment electrical penetrations. The environmental qualifications documentation for these connectors were submitted to NRR on November 9, 1977.
- c. Containment electrical penetrations are not of the type discussed in IE Bulletin 77-07, however, the environmental qualification documentation for installed penetrations was submitted to NRR on November 9, 1977.
- d. Unprotected terminal blocks are not to be used on safety-related electrical equipment in containment. Licensee representatives stated that a review of the qualifications of the protected terminal blocks was being conducted by the task group.
- e. As a result of notification from Westinghouse, the licensee identified certain stem mounted limit switches for which environmental qualification documentation was not available. This resulted in a DPC Construction Deficiency Report CD-369/370-77-8 dated January 30, 1978, which was submitted to the NRC. In the report, DPC committed to insuring that all safety-related stem mounted limit switches installed have environmental qualification documentation or that the switches will be replaced by ones that do prior to hot functional testing. This item will be reviewed during a subsequent inspection. (78-32-02)
- f. Licensee representatives stated that cable splices are to be used on safety-related systems in containment. They also stated that qualification test documentation is available and DPC has a commitment in the Safety Evaluation Report to submit this

documentation to the NRR for review by October 1, 1978. (78-32-03)

- g. The licensee representatives stated that a problem has arisen concerning the environmental qualification testing of Barton 764 electrical transmitters planned for use at McGuire. The licensee representatives also stated that Westinghouse was in the process of resolving the problem directly with NRR. This item will be reviewed during a subsequent inspection. (78-32-04)

No items of noncompliance or deviations were identified.