UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-269/84-16, 50-270/84-15, and 50-287/84-26

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 28242

Docket Nos.: 50-269, 50-270, and 50-287 License Nos.: DPR-38, DPR-47, and DPR-55

Facility Name: Oconee 1, 2, and 3

Inspection Conducted: September 10-14, 1984

Inspectors: B. Debs — Date Signed 11/13/84

H. Christensen — Date Signed 11/13/84

P. Wagner — Date Signed 11/13/84

Approved by: C. A. Julian, Section Chief, Operational Programs Section, Division of Reactor Safety — Date Signed 11/6/84

SUMMARY

Scope: This routine, announced inspection involved 105 inspector-hours on site in the areas of seven NUREG-0737 items including 1.A.1.1 Shift Technical Advisor; 1.A.1.2 Shift Supervisor Administrative Duties; 1.A.1.3 Shift Manning; 1.C.2 Shift Relief and Turnover; 1.C.3 Shift Supervisor Responsibilities; 1.C.4 Control Room Access; and 1.C.6 Verification of Correct Performance of Operating Activities. The inspection included a review of documents related to these NUREG-0737 items as well as observation of control room activities and interviews with Operations and Training personnel.

Results: Of the seven areas inspected, three violations were identified.

REPORT DETAILS

1. Licensee Employees Contacted

*M. Tuckman, Station Manager
*J. Pope, Superintendent of Operations
*L. Schmid, Duke Corporate Operations Support
*R. Bond, Compliance Engineer
*T. Coutu, Assistant Operations Engineer
*D. Davidson, Compliance Associate Health Physicist
*W. Gibson, Quality Assurance
*H. Lowery, Shift Operations Engineer
*T. Matthews, Compliance Technical Specialist

Other licensee employees contacted included 14 operators.

NRC Resident Inspectors

*J. Bryant, Senior Resident Inspector
K. Sasser, Resident Inspector
L. King, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 14, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items*

Unresolved items were not identified during this inspection.

5. 1.C.4 Control Room Access

This NUREG-0737 Action Item required licensees to revise plant procedures to limit access to the control room to the individuals responsible for the direct operation of the plant, technical advisors, specified NRC personnel, and to establish a clear line of authority, responsibility, and succession in the control room.

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*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

The inspectors observed two methods of controlling control room access in use by the licensee.

The first method restricts access to the entire control room complex by the use of key cards and the procedures which govern their issue and use. The second method of access control applies to a specific area within the control room complex. This area is known as the "Control Room Area" and is defined in the licensee's Station Directives 3.1.27, current revision dated January 18, 1984, and 3.1.31, current revision dated August 8, 1984. In Station Directive 3.1.31 "Control Room Access and Authority", the Shift Supervisor or Control Room SRO has the responsibility to ensure only essential personnel are in the Control Room Area and that individuals must obtain permission from them to enter the "Control Room Area".

The inspectors observed formal compliance with control room access procedures and found that the procedures adequately met the intent of NUREG-0737.

6. 1.C.3 Shift Supervisor Responsibilities

This NUREG-0737 action item requires licensees to issue a corporate management directive that clearly establishes the command duties of the shift supervisor and emphasizes the primary management responsibility for safe operation of the plant. This item also requires the licensee to revise plant procedures to clearly define the duties, responsibilities, and authority of the shift supervisor and the control room operators.

The licensee issues a management directive regarding Shift Supervisor Responsibility to "All Nuclear Production Personnel" annually, but the distribution does not include vendor or contractor personnel. This annual directive requirement appears in Duke Power Company's McGuire and Catawba Nuclear Station Technical Specifications (McGuire Inspection Report No. 50-369/84-24 and 50-370/84-21); however, Oconee does not have this requirement in its Technical Specification.

The inspectors reviewed Administrative Policy Manual Sections 3.1.2.4 and 3.1.2.5, the licensee's Final Safety Analysis Report (FSAR) sections 13.1.2.2.5 and 13.1.2.2.6, Oconee Emergency Response Plan, and Station Directives 3.1.27 as revised January 18, 1984, 3.1.33 as revised January 23, 1984, and 3.1.36 as revised January 18, 1984.

These procedures adequately define the shift supervisors' responsibilities. The inspectors however, expressed concern to licensee management that the procedures do not adequately define the responsibilities and authority of control room operators (unit supervisors and control room SRO/STA's) during the onset of an "off normal" event.

In addition to these procedural reviews, the inspectors conducted interviews with licensed operators regarding the responsibilities and authority of unit supervisors and control room SRO/STA's during "off normal" events. These interviews indicated that on the start of an off normal event when the shift

supervisor may not be immediately available to take charge of the situation, the command and control function becomes confused between the unit supervisor and the control room SRO, both of which are assistant shift supervisors. During some interivews, the SRO in the control room and the unit supervisor indicated they would be in charge of the event until relieved by the shift supervisor. The SRO in the control room also has the responsibility to perform the function of STA.

In reviewing the licensee's procedures, the Administrative Policy Manual, section 3.1.2.5, states, in part, that the assistant shift supervisor shall assume the responsibilities of the shift supervisor in the absence of the shift supervisor. Station Directive 3.1.27 states, in part, the control room SRO/STA must be readily available to supervise control room activities at all times. Station Directive 3.1.36 states, in part, that the control room SRO/STA, during off-normal events, shall be detached from and independent of the normal line function of shift operation and act as an advisor to the shift supervisor. Additionally, he is to perform the normal duties of an assistant shift supervisor from the control room during normal operations.

The responsibilities and authority of an assistant shift supervisor are not clearly defined in procedures, but the licensee indicated that a unit supervisor is the same as an assistant shift supervisor. Station Directive and administrative procedures are contradictory in defining the responsibilities and authority of the unit supervisor and his function relative to the control room SRO at the start of an "off normal" event. The licensee management was informed that this inadequacy is a matter that needs licensee management attention for prompt clarification. (Inspector Followup Item IFI) 50-269/84-16-01, 50-270/84-15-01 and 50-287/84-26-01).

7. 1.A.1.2 Shift Supervisor Administrative Duties

This NUREG-0737 item requires licensees to review the administrative duties of the shift supervisor and delegate functions that detract from or are subordinate to the management responsibility for assuring safe operation of the plant to other personnel not on duty in the control room.

With regard to the aforementioned NUREG-0737 item, the inspectors conducted a review of Oconee Station Directives and Administrative Policy Procedures. Currently, no specific direction exists to specify all the administrative duties that can be delegated by the shift supervisor.

The inspectors conducted interviews with shift supervisors and assistant shift supervisors. Interviewed shift supervisors indicated that it was their individual responsibility to delegate some administrative duties to other personnel and that they did not consider themselves overburdened.

The delegation of administrative duties may be made to the assistant shift supervisors, who may be on duty in the control room. Procedures do not exist to preclude the assignment of administrative duties to on duty personnel who fulfill the 10 CFR 50 and Technical Specification control room manning requirements.

The inspectors informed licensee management that the aformentioned practice was not acceptable since nothing precludes assistant shift supervisors or reactor operators (on duty personnel in the control room) from being burdened with detracting administrative duties. Therefore, the licensee has not met the intent of this NUREG-0737 item which appears in USNRC Order 7590-01 dated July 10, 1981, Order Confirming Licensee Commitments On Post-TMI Related Issues, issued to Duke Power Company.

10 CFR 2.204 states, in part, that the commission may modify a license by issuing an order. The inspectors informed licensee management that the inadequacy to preclude assignment of administrative duties to on duty personnel is a violation of Order 7590-01, which was issued under 10 CFR 2.204 (Violation 50-269/84-16-02, 50-270/84-15-02 and 50-287/84-26-02).

8. 1.C.2 Shift Relief and Turnover

This NUREG-0737 item requires licensees to revise plant procedures for shift relief and turnover to require signed checklists and logs to assure that the operating staff (including auxiliary operators and maintenance personnel) possess adequate knowledge of critical plant parameters status, system status, availability, and alignment.

The inspectors reviewed Station Directives 3.1.19, as revised November 30, 1981, Unit Supervisors Log Book, and 3.1.20, as revised February 23, 1982, Reactor Operation Log, and Operation Procedure OP/0/A/1102/20, Shift Turnover, revision 24. Additionally, the inspectors conducted interviews with selected operational personnel regarding shift turnovers. The inspectors found the licensee to be in compliance with the NUREG-0737 action item 1.C.2. The inspectors also noted that the licensee conducted reviews and maintained the shift turnover sheets for a minimum of six months, in accordance with Operation Procedure OP/0/A/1102/20.

The inspectors expressed concern over the lack of interim shift turnover procedures to assure that the operating staff possess adequate knowledge of critical plant parameters status, system status, availability, and alignment. Interviews indicated that on the few occasions interim turnovers have taken place, the turnover checklists were used for discussion, but no signatures on these checklists were required.

9. I.A.1.1 Shift Technical Advisor

This NUREG-0737 Action Item requires each licensee to provide an on-shift technical advisor to the shift supervisor. The Shift Technical Advisor (STA) may serve more than one unit at a multi-unit site if qualified to perform the advisor function for the various units.

The STA shall have a bachelor's degree or equivalent in a scientific or engineering discipline and have received specific training in the response and analysis of the plant for transients and accidents. The STA shall also receive training in plant design and layout, including the capabilities of instrumentation and controls in the control room. The licensee shall assign normal duties to the STAs that pertain to the engineering aspects of assuring safe operations of the plant, including the review and evaluation of operating experience.

The inspectors reviewed Oconee Station Directive 3.1.36, as revised January 18, 1984. This Station Directive states that the licensee's SRO/STA: shall have a minimum of a high school diploma, or equivalent, and four (4) years of responsible nuclear power plant experience. An SRO/STA shall also hold a Senior Reactor Operator license. The licensee, in a letter to the NRC dated May 21, 1984, committed to meeting the bachelor's degree requirement by September 1, 1985.

The inspectors reviewed Oconee's Technical Specification section 6.1.1.7 and Figure 6.1-1. Technical Specification 6.1.1.7, states, in part, that the functions of the Shift Technical Advisor are fulfilled in the following manner: An experienced SRO, who has been instructed in additional academic subjects, will be assigned on-shift to provide the accident assessment capability. Technical Specification Figure 6.1-1, shows the STA as a separate entity under the Operating Engineer with a dotted line to the Shift Supervisor, indicating advisory responsibilities.

The inspectors conducted a review of correspondence between Duke Power Company and the NRC and Station Directives 3.1.36, original dated July 1, 1980, and the current revision dated January 18, 1984. In a USNRC letter dated April 7, 1980, the NRC conducted an evaluation of Oconee Nuclear Station's actions taken to satisfy TMI-2 lessons learned. The evaluation stated, in part, that the STA is an additional person assigned to each shift who will provide on-shift accident assessment and will be independent of the normal line function of plant operations. The evaluation also stated that the licensee has satisfied the requirements of the STA and that verification of the adequacy of the licensee's procedures for implementation of this item will be performed by the office of Inspection and Enforcement and will be documented in an appropriate inspection report.

Inspection Report Numbers 50-269/80-23, 50-270/80-20 and 50-287/80-17, states that the STA program established for all three Oconee units appears to satisfy the requirements of the item. Station Directive 3.1.36 dated July 1, 1980, also states that the STA(s) will not take away from any of the established duties or responsibilities of the Shift Supervisors or the Assistant Supervisors. The STA will report directly to the Projects Operating Engineer and not to the Shift Supervisor. STA responsibilities during off-normal events shall be detached from and independent of the normal line function of shift operation and act as an advisor to the Shift Supervisor. During normal operation, the STA will perform duties as directed by the Projects Operating Engineer.

Station Directive 3.1.36, as revised January 18, 1984, states that the SRO/STA will provide additional on-shift capability for evaluation and assessment of off-normal events and normal transients. The SRO/STA will be required in the control room from which the unit is operated any time the reactor coolant temperature on that unit is above 200°F. SRO/STA will report directly to the Projects Operating Engineer and not to the Shift Supervisor on items pertinent to the STA function. He will report to the Shift Supervisor on items pertinent to normal operations. The SRO/STA responsibilities, during off-normal events, shall be detached from and independent of the normal line function of shift operation and act as an advisor to the Shift Supervisor. During normal operations, he shall perform duties of the control room supervisor as directed by the Shift Supervisor. He shall perform the normal duties of an assistant shift supervisor from the control room during normal operations.

The inspectors expressed the concern that the current revision of Station Directive 3.1.36, establishes the STA as the SRO in the control room. This Station Directive now places the STA in the normal line function of plant operation which may prevent him from promptly being detached from this line function during an off-normal event. This Oconee Station Directive has combined the requirements for a SRO in the Control Room and a STA into the same individual.

The inspectors have informed the licensee management that the combined Control Room SRO/STA function does not meet the intent of NUREG-0737 and is a violation of Technical Specification Figure 6.1-1, which shows the STA as a separate entity, not included in the normal line function under the Shift Supervisors (Violation 50-269/84-16-03, 50-270/84-15-03 and 50-287/84-26-03).

10. 1.A.1.3 Shift Manning

This NUREG-0737 item requires, in part, that licensees of operating plants and applicants for operating licenses shall include in their administrative procedures (required by license conditions) provisions governing required shift staffing and movement of key individuals about the plant. These provisions are required to assure that qualified plant personnel are readily available to man the operational shifts in the event of an abnormal or emergency situation.

This action item also requires that these administrative procedures set forth a policy requiring development of work schedules which avoid the use of overtime, to the extent practicable, for the plant staff who perform safety-related functions (e.g., senior reactor operators, reactor operators, health physicists, auxiliary operators, I&C technicians and key maintenance personnel).

The aforementioned NUREG-0737 item was, in part, incorporated into Oconee Technical Specification Table 6.1-1, Minimum Operating Shift Requirements. In addition to reviewing this Technical Specification, the inspectors reviewed a licensee proposed Technical Specification change to Table 6.1-1 dated July 16, 1984.

The NUREG-0737 requires five auxiliary operators on shift for three unit, two control room operations. Oconee's Technical Specifications, Table 6.1-1, along with the proposed table change, indicate four auxiliary operators. Additionally, NUREG-0737, requires five licensed reactor operators if two units are being operated from two control rooms for a three-unit plant. The current Technical Specification is short one licensed reactor operator. The proposed Technical Specification change correctly reflects the required number of reactor operators.

The inspectors informed the licensee management of these discrepancies. The licensee stated that action would be taken to correct Technical Specification Table 6.1-1. The licensee was informed that the discrepancies associated with Technical Specification Table 6.1-1 will remain open as an Inspector Followup Item until corrected (IFI 50-269/84-16-04, 50-270/84-15-04, and 50-287/84-26-04).

The inspector conducted a review of the following documentation concerning overtime limitations:

- Station Directive 3.1.33, revision dated January 25, 1984, Rules of Practice.

- Duke Power Company letter to the NRC dated June 26, 1984, Proposed revision to Technical Specifications 6.4.3.

- Proposed Draft Station Directive, "Limiting Work Hours".

The licensee's Station Directive 3.1.33 states that operators are normally scheduled to work twelve (12) hours per day. If overtime is required, operators will not normally be scheduled for more than 12 hours per day or 120 hours in a two-week period. Deviation from this policy must have the approval of the Superintendent of Operations.

In general, utilization of personnel described above should be planned to avoid necessity for working hours in excess of any of the following (excluding extended periods of shutdown for refueling, major maintenance, or major plant modifications):

a. An individual should not be permitted to work more than 16 hours straight, with 12 hours being the maximum time at the control board (excluding shift turnover time).

b. There should be at least an 8 hour break between all work periods (including shift turnover time).

c. An individual should not work more than 72 hours in any seven day period, more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period (all excluding shift turnover time).

d. The use of overtime should be considered on an individual basis and not for the entire staff on a shift.

The proposed Technical Specification 6.4.3 states, in part, administrative procedures shall be developed and implemented to limit the working hours of station staff who perform safety-related functions, e.g., senior reactor operators, reactor operators, nuclear equipment operators, and certain maintenance personnel. Any deviations from the above procedures shall be authorized by the Station Manager (or designee) in accordance with established procedures and with documentation of the basis for granting the deviation. Individual overtime shall be periodically reviewed to assure that excessive hours have not been worked. Routine deviation from the above guidelines is not authorized.

The inspectors expressed concern that health physicists or key maintenance personnel are not currently included in Station Directive 3.1.33 and procedurally could work overtime which exceeded NUREG-0737 limits, but meet licensee's limits of 120 hours in a two-week period. Additionally, the proposed Technical Specification 6.4.3 change does not address overtime for health physicists. Contrary to NUREG-0737 which was required by NRC order 7590-01, the licensee was informed that the Station Directive 3.1.33 and proposed Technical Specification 6.4.3 were not adequate for limiting overtime for health physicists and key maintenance personnel and were in violation of NRC Order 7590-01 (Violation 50-269/84-16-05, 50-270/84-05-05, and 50-287/84-26-05).

11. 1.C.6 Verifying Correct Performance of Operating Activities

This NUREG-0737 action item requires that licensee's procedures be reviewed and revised, as necessary, to assure that an effective system of verifying the correct performance of operating activities is provided as a means of reducing human errors and improving the quality of normal operations. The inspector conducted a review of Station Directive 4.2.5, revision dated June 5, 1984, and proposed Department Directive, "Independent Verification", Revision 1, dated July 16, 1984. Station Directive 4.2.5 states that the following methods are the acceptable ways of accomplishing Independent Verification:

> Two qualified individuals acting independently verify that affected components are to be properly removed from service or returned to service by the direct observation of the component or the direct performance of the necessary actions.
>
> One qualified individual uses direct observation of the component or directly performs the necessary actions followed by a second qualified individual observing a remote indication.
>
> Two qualified individuals using remote indication.
>
> In the case of extremely strenuous tasks (such as operating large valves), the verifier may help perform the function only under the condition that verifier does not lose sight of his prime objective.
>
> Independent Verification may be performed by individuals from the same work area or another station section or group.
>
> Personnel performing Independent Verification must be independently and individually responsible for determining component status even though they may be working together.
>
> Responsibilities of the individual performing the removal and restoration acts or service as the verifier must be clearly designated.

The inspectors expressed concern that the station directive allows two qualified individuals to use a single remote indication when performing independent verification and that two persons performing independent verification may work together.

Licensee management was informed that the aforementioned methods of accomplishing independent verification are contrary to IE Information Notice No. 84-51, Independent Verification, dated June 26, 1984, in that Independent Verification should be independent with respect to personnel, i.e., two appropriately qualified individuals, operating independently, should verify that equipment has been properly returned to service. Both verifications are to be implemented by procedure and documented by the initials or signature of the two individuals performing the alignment and verification.

In certain instances, it may be possible to accomplish one verification from observing control room instruments, annunciators, valve position indicators, etc. This is acceptable as long as the control room indication is a positive one and is directly observed and documented.

Regarding the qualification of those who perform Independent Verification, Station Directive 4.2.5 states that Independent Verification must be performed by a qualified individual. Documentation or records pertaining to an individual's qualification to perform Independent Verification is not required.

Interviews with Station operations personnel indicated that the people performing Independent Verification are work-area qualified, that is, the nuclear equipment operator has completed the qualification task list for a given work area.

The inspectors expressed concern regarding Nuclear Equipment Operator training, in that interviews with Nuclear Equipment Operators indicate non-standardized means of completing Independent Verification of valve and breakers. Licensee management indicated that they were implementing a training program on Independent Verification which will cover methods of accomplishing independent verification tasks. The inspector informed licensee management that their current independent verification program does not appear to meet the intent of NUREG-0737 Action Item 1.C.6, specifically in light of subsequent NRC guidance provided in IE Information Notice No. 84-51. This issue remains open as an Inspector Followup Item pending further NRC review (IFI 50-269/84-16-06, 50-270/84-15-06, and 50-287/84-26-06).