



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30303

JUL 03 1984

Report No.: 50-287/84-17

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

Docket No.: 50-287

License No.: DPR-55

Facility Name: Oconee Unit 3

Inspection Date: June 8, 1984

Inspection at Oconee site near Seneca, South Carolina

Inspector: [Signature] 27 JUN 84  
SAR D. P. Falconer Date Signed

Approved by: [Signature] 27 JUN 84  
H. Krug, Section Chief (Acting) Date Signed  
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection involved six inspector-hours on site in the areas of event followup.

Results: The inspector performed a reactive inspection of several operational events that occurred at Oconee Unit 3 between June 6 and 8, 1984.

In the area inspected, no violations or deviations were identified. Inspector Followup Item 287/84-17-01, "Periodic Checks of SOE and typer inputs" was identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- N. Pope, Acting Plant Manager
- \*J. Davis, Superintendent of Maintenance
- H. Lowery, Operating Engineer
- T. Coutu, Operating Engineer
- \*D. Sweigart, Operating Engineer
- \*T. Glenn, I&E Support Engineer
- R. Bond, Licensing Engineer
- \*T. Mathews, Compliance Technical Specialist

Other licensee employees contacted included operators and shift personnel.

#### NRC Resident Inspector

J. Bryant

### 2. Exit Interview

The inspection scope and findings were summarized on June 8, 1984, with those persons indicated in Paragraph 1 above. The licensee acknowledged the inspection findings. The inspector identified Inspector Followup Item 287/84-17-01, "Periodic checks of SOE and typer input". (See paragraph 5c)

### 3. Licensee Action on Previous Enforcement Matters

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Oconee Unit 3 Operational Events

The inspector performed a reactive inspection of several operational events that occurred at Oconee Unit 3 between June 6 and June 8, 1984. The inspector verified that the licensee performed a review of the events and formulated appropriate corrective actions and event evaluations. The operational events reviewed are detailed below.

a. Spurious Loss of Stator Cooling

On June 6, 1984, Oconee Unit 3 experienced a turbine runback to approximately 15 percent power on loss of stator coolant. Subsequent investigation could not identify the cause of the loss of stator coolant runback signal. Plant parameters did not indicate any problems with stator coolant.

Power was returned to 100 percent and on June 7, the unit experienced a second turbine runback on an indicated loss of stator coolant. The reactor tripped immediately after the runback when the licensee removed one main feedwater pump from service. Hydraulic control oil pressure on the second feedwater pump dropped momentarily below the setpoint indicating pump trip and the reactor tripped on anticipatory loss of both main feedwater pumps.

Plant parameters did not indicate that an actual loss of stator coolant had occurred. Investigation of the loss of stator coolant circuitry did not identify a problem. It was concluded that the runbacks were initiated by a spurious component malfunction in the loss of stator coolant circuit. The unit was restarted and taken to 15 percent power. The loss of stator coolant circuit was disconnected and continuously monitored in an effort to identify the problem. Power was increased to 18 percent and the generator was placed on line at 9:33 p.m. on June 7.

b. Anticipatory Reactor Trip on Turbine Trip

The reactor tripped a second time, at 10:33 p.m., on June 7, on an anticipatory turbine trip. Reactor power was at 18 percent, operators were performing feedwater manipulations and the turbine trip contact buffers were being reset in preparation for escalating power. Operators had reset the 'C' and 'D' turbine trip buffers when the reactor tripped on an anticipatory turbine trip as indicated by control room annunciators and RPS module status lights at the RPS cabinets.

It is postulated that power, as indicated by Nuclear Instrumentation associated with the 'A' and 'B' turbine trip contacts, went above 20 percent power prior to those contacts being reset. This would complete the 2 out of 4 turbine trip channels necessary to initiate a reactor trip above 20 percent power. Event recorder and alarm typer data did not support control room trip indications, in that the sequence of events showed only the 'B' channel of RPS turbine trip actuating before the reactor trip breakers opened and the 'A' channel of RPS turbine trip actuating afterwards. The alarm typewriter printout showed only the 'B' channel of RPS turbine tripped.

The licensee performed a detailed post trip review in an effort to resolve the discrepancy between control room observation of trip indications and trip event recordings. Calibration checks of the RPS Turbine Trip channels indicated no problems.

c. Control Rod Drive Motor Faults

Restart permission was granted, however, control rod drive motor faults were experienced during the withdrawal of Group 3 safety rods and the unit was manually tripped when Group 3 rods failed to respond to in or out drive commands. Investigation revealed that the problem was a loose optical programmer disc. The malfunctioning disc was repaired and concurrence obtained from Duke Corporate Licensing Staff for unit restart.

The inspector reviewed the licensee's post trip evaluations and investigation of the loss of stator coolant circuit. The licensee plans to evaluate the possibility that sticking contacts inputting to the events recorder and alarm printer resulted in the discrepancy with control room trip indications. The licensee committed to implementing periodic checks of event recorder and alarm typewriter inputs based upon the above evaluation. This item will be identified as IFI 287/84-17-01.

Within the areas inspected, no violations or deviations were identified.