UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION II - SUITE 818
230 PEACHTREE STREET, NORTHWEST
ATLANTA, GEORGIA 30303

TELEPHONE: (404) 526-4503

RO Inspection Report No. 50-270/73-5

Licensee: Duke Power Compan,
Power Building
422 South Church Street
Charlotte, North Carolina 28201

Facility Name: Oconee Unit 2
Docket No.: 50-270
License No.: CPPR-34
Category: B1

Location: Seneca, South Carolina

Type of License: B&W, PWR, 2452 Mw(t)

Type of Inspection: Routine, Unannounced

Dates of Inspection: April 25-27, 1973

Dates of Previous Inspection: March 15-16, 1973

Principal Inspector: Frank Jape — 5-10-73
F. Jape, Reactor Inspector — Date
Facilities Test and Startup Branch

Accompanying Inspector: None

Other Accompanying Personnel: None

Reviewed by: C E Murphy — 5/10/73
C. E. Murphy, Acting Chief, Facilities Test and Startup Branch — Date

SUMMARY OF FINDINGS

I. Enforcement Action

None

II. Licensee Action on Previously Identified Enforcement Matters

None applicable.

III. New Unresolved Items

73-5/1 Reporting Component Failures As An Abnormal Occurrence Or As An Unusual Event

Statements within periodic test procedures imply that all component failures are to be reported as an unusual event. Multiple or generic failures which negate the intended safety function should be reported as an abnormal occurrence. Clarification of these definitions is pending. (Details, paragraph 2.mm)

73-5/2 PT 620/15 Keowee Hydro Operational Test

The initial conditions for this test specify prestarting the d.c. oil pumps. This action does not simulate an actual emergency startup of the hydro plant. Additional testing of the oil pump is under consideration. (Details, paragraph 2.kk)

73-5/3 Adequate Test of the LPI System

The available test procedures on the LPI system do not include a response check of the pump as prescribed on page 6-13 of the FSAR. Additional tests for this system are in preparation. This item will be carried as an unresolved item until the additional tests have been reviewed and found adequate. (Details, paragraph 2.j)

IV. Status of Previously Reported Unresolved Items

73-1/1 Test Procedure Index Disagrees With FSAR

No change in status. Test requirements for the core flooding system remain to be resolved.

V. Design Changes

None

VI. Unusual Occurrences

None

VII. Other Significant Findings

None

VIII. Management Interview

A management interview was held with J. E. Smith, Plant Superintendent, on April 27, 1973, at the conclusion of the inspection.

The following items were discussed:

A. The inspector stated that he had reviewed 45 test procedures (TP), periodic tests (PT) and instrument procedures (IP). As a result of this review, three comments were discussed and each is carried as an unresolved item. (Details, paragraphs 2.j, 2.kk and 2.mm)

B. The test results of 4 TP's and 18 IP's were evaluated by the inspector. There were no comments or questions on these procedures. (Details, paragraph 3)

C. The inspector summarized the findings from a discussion held earlier with the QA auditor regarding their technique and procedures for reviewing logbooks and other records. The inspector had no questions on the auditors activities. (Details, paragraph 5)

D. The control room log and the shift supervisor's log were reviewed by the inspector. The inspector had no questions or comments on these two records. (Details, paragraph 5)

RO Rpt. No. 50-270/73-5

DETAILS

Prepared by: Frank Jape 5-10-73
F. Jape, Reactor Inspector, Facilities Test and Startup Branch — Date

Dates of Inspection: April 25-27, 1973

Reviewed by: C. E. Murphy 5-10-73
C. E. Murphy, Acting Chief, Facilities Test and Startup Branch — Date

1. Individuals Contacted

Duke Power Company (DPC)

J. E. Smith - Plant Superintendent
D. J. Rains - Assistant Plant Engineer
G. G. Reynolds - Junior Engineer
G. M. Burgess - Junior Engineer
W. A. Houston - Junior Engineer
H. B. Barron - Junior Engineer
J. W. Cox - Assistant Plant Engineer
R. M. Koehler - Technical Support Engineer
M. D. McIntosh - Operating Engineer
L. A. Reed - Shift Supervisor

2. Review of Testing Program

The following test procedures were reviewed by the inspector. Comments were discussed with the licensee's representatives and action taken as summarized below:

a. TP 105/1 "Plant Communication Test"

No comment.

b. TP 200/5A, "Initial Run of RCP Motors"

Inspector's Comment - The acceptance criterion is not definitive. For example, proper motor rotation is not given and "excessive vibration" is not defined.

Licensee's Response - This test has already been run; hence, it is too late to add these data for Unit 2. Specific values for Unit 3 testing will be added.

c. TP 200/16, "RC System Final Cleaning Procedure"

No comment.

d. TP 201/2, "CF Tanks Hydro Test"

No comment.

e. TP 202/4, "HP Injection System Functional Test"

No comment.

f. TP 202/8, "HP System Flush"

No comment.

g. TP 202/11, "Emergency Power RCP Seal"

No comment.

h. TP 203/7A, "LPI System Flush"

No comment.

i. TP 203/2, "Borated Water System Leak and Functional Test"

No comment.

j. TP 203/6A, "500 PSI LPI ES Test"

Inspector's Comment - The response of the LPI pumps as described on page 6-13 of the FSAR is not tested in this TP. Where will the pump response be tested?

Licensee's Response - Two other tests, which are still in preparation, will cover the response and other parameters of the LPI system.

k. TP 203/9, "BWST Clean and Flush"

No comment.

l. TP 204/6, "RB Spray System Flush"

No comment.

m. TP 204/2, "RB Spray System Hydro"

No comment.

n. TP 210/5, "CA System Functional Test"

No comment.

o. TP 210/8, "Trace Heating Functional Test"

No comment.

p. TP 600/15, "CRD Operational Test"

Inspector's Comment - The precautionary statement regarding criticality does not appear to be needed since this test is performed without fuel in the reactor.

Licensee's Response - This statement will be removed from the test procedure.

q. TP 00/14, "Pipe and Component Hanger Hot Deflection and Inspection Test"

No comment.

r. TP 306/2, "NI Intermediate Range, Nuclear Detector Electrical Test"

Inspector's Comment - Prerequisite No. 6, TP 301/3J, is not listed in the test index. Is this a correct reference?

Licensee's Response - The prerequisite reference should be IP 301/3J, and will be corrected on the master copy.

s. TP 261/2, "CCW System Functional Test"

No comment.

t. TP 261/6, "CCW System Gravity Flow"

No comment.

u. TP 240/4, "CC System Functional Test"

No comment.

v. TP 251/2, "RCW System Functional and Operational Test"

No comment.

w. TP 250/3, "LP Service Water System Functional and Operational Test"

Inspector's Comment - Engineered safeguards actuation of "C" LP pump is not tested in this test. Where will this be done?

Licensee's Response - This is checked in TP 600/17, "Integrated ES Actuation Test."

x. IP 310/11A, "ES Logic Subsystem 1 Module Interlock Test"

No comment.

y. IP 310/10A, "ES Analog Channel 1 Module Interlock Test"

No comment.

z. IP 310/9, "ES Coincidence Logic Functional Test"

No comment.

aa. IP 330/3B, "CRD DC. Breaker Trip Test"

No comment.

bb. IP 330/1, "CRD Integrated Test"

No comment.

cc. IP 323/1, "ICS/RC Reactor Demand"

No comment.

dd. IP 310/13C, "RB Emergency Cooling And Isolation Logic Ch 6 On-line Test"

Inspector's Comment - This test is to be performed as part of the preoperational testing program, yet in Section 6 it is stated that the reactor is to be in operation.

Licensee's Response - This will be changed to state "Reactor Operating or Shutdown."

ee. IP 310/12C, "RB Emergency Cooling and Isolation Logic Ch-5 On-Line Test"

Inspector's Comment - Same as above for IP 310/13C.

Licensee's Response - Same as above for IP 310/13C.

ff. IP 310/12A, "HPI Logic Ch-1 On-Line Test"

Inspector's Comment - Same as above for IP 310/13C.

Licensee's Response - Same as above for IP 310/13C.

gg. IP 340/18, "CRD System Position Indication Tube Functional Test"

No comment.

hh. IP 120/5A, "Main Bridge Position and Control"

No comment.

ii. IP 270/5A, "FWPT Vibration and Eccentricity Test"

No comment.

jj. IP 270/1S, "Turbine Bypass Valves Instrument Calibration"

No comment.

kk. PT 620/15, "Keowee Hydro Operational Test"

Inspector's Comment - In the list of references, Technical Specification 1.8, which defines "abnormal occurrence" is listed, but in part 6.2 of this test, an unusual event report is stated as required when test acceptance is not met.

In part 6.1, it is stated that the Keowee d.c. oil lift pumps are to be started prior to starting the test. This appears to negate a portion of the test in that the automatic start of the hydro plant in event of an emergency will not be preceded by a start of these oil pumps.

Licensee's Response - In answer to the first comment, the reference to Technical Specification 1.8 will be changed to 1.9 which is the definition of unusual event.

The second comment regarding prestart of the oil pump will be reviewed.

Inspector's Response - The question on prestarting the oil pumps will be carried as an unresolved item.

ll. PT 20/7, "Keowee Data Multiplex System Test"

No comment.

mm. PT 290/2, "Main Steam Stop Valve Closure Time Test"

Inspector's Comment - The statement in part 6.0 regarding reporting requirements upon failure of these valves is only partially complete. Failure of more than one valve, or a single failure that is believed to be generic, should be considered to be an abnormal occurrence and reported as such.

Licensee's Response - The definition of abnormal occurrence in the Unit 1 Technical Specifications does not include this interpretation.

Inspector's Response - The definition of abnormal occurrence in DPC's Administrative Policy Manual for Operational Quality Assurance of Nuclear Stations does include failure of engineered safety feature components, as does ANS 3.2 and AEC Safety Guide 16, "Reporting of Operating Information."

This question will be carried as an unresolved item until agreement on the definition if reached or until the Units 1 and 2 Technical Specifications are issued.

nn. PT 290/3, "Main Stop Valve Movement"

Inspector's Comment - Same as above for PT 290/2.

Licensee's Response - Same as above for PT 290/2.

oo. PT 204/9, "RB Spray System Engineered Safeguards Test"

No comment.

pp. PT 204/7, "RB Spray System Performance Test"

Inspector's Comment - The operating procedure referred to within this procedure is for Unit 1. Shouldn't this be a Unit 2 operating procedure?

Section 6.4 refers to only part of the acceptance criteria as being fulfilled. Shouldn't this refer to all parts of the acceptance criteria?

Licensee's Response - The procedure will be revised to include Unit 2 operating procedures and to refer to all parts of the acceptance criteria.

qq. PT 250/5, "HPSW Pumps and Power Supply Test"

No comment.

rr. PT 203/8, "LPI System ES Test"

No comment.

ss. PT 202/11, "HPI System Performance Test"

Inspector's Comment - The pump curves attached to this test differ from Figure 6-6 in the FSAR. Which is the correct curve?

Licensee's Response - A comparison of the actual pump performance curves with Figure 6-6 in the FSAR reveals that the actual curves are within the FSAR curve for Unit 2.

3. Review of Test Results

The following test results were reviewed. These tests have been approved and results accepted by DPC. The inspector had no comment on the tests or test results.

a. TP 251/4, "RCW Hydro Test"

b. TP 240/5, "Component Cooling Water System Flush"

c. TP 200/5A, "Initial Run of RC Pump Motors"

d. TP 251/5, "RCW Flushing Procedure"

e. IP 161/1A, "RB Purge Control Instrument Calibration"

f. IP 161/1B, "RB Stack Flow Instrument Calibration"

g. IP 202/1A, "Seal Return Cooler Temperature Control Instrument Calibration"

h. IP 202/1E, "Letdown Storage Tank Pressure Instrument Calibration"

i. IP 202/1G, "Letdown Storage Tank Temperature Calibration"

j. IP 202/1, "'0' RC Pump Seal Flow Filter d/p Instrument Calibration"

k. IP 203/1E, "RB Emergency Sump Level Instrument Calibration"

l. IP 203/1F, "LPI Pressure Instrument Calibration"

m. IP 204/1A, "RB Spray, Pressure Instrument Calibration"

n. IP 204/1B, "RB Spray, Flow Instrument Calibration"

o. IP 231/1, "Quench Tank Level"

p. IP 231/2, "Quench Tank Temperature"

q. IP 231/3, "Quench Tank Pressure"

r. IP 231/6, "Reactor Coolant Bleed Transfer Pump Flow Coolant Storage System"

s. IP 240/1A, "Component Cooling Surge Tank Level"

t. IP 240/1B, "Component Cooling Temperature Calibration"

u. IP 240/1B, "Component Cooling Temperature Calibration"

v. IP 240/1C, "Component Cooling Pressure and Flow Instrument Calibration"

w. IP 240/1D, "Component Cooling CRD Flow and Filter SP Instrument Calibration"

x. IP 250/1C, "LPSW to RC Pump Motors, LP Decay Heat Coolers, RB Component Coolers and HPI Pump Motor Bearing Coolers"

4. Administrative Policy Manual for Operational Quality Assurance of Nuclear Stations (APM/NS)

During a previous inspection,[1/] a disagreement was noted between the APM/NS and the FSAR regarding review of safety related procedures. This item has been resolved by issuance of intrastation letter, dated March 19, 1973, to the Oconee nuclear station group heads and the assistant plant superintendent. The letter restates the review commitment to be consistent with the FSAR.

There are no further questions on this item.

1/ See RO Inspection Report No. 50-270/73-3, Details I, paragraph 5.

5. Logbook Review

The control room log and the shift supervisor's log were reviewed. The period reviewed was from April 1, 1973, to April 25, 1973. There were no comments or questions on these records.

The QA audit checklist for review of logbooks was discussed with the licensee's QA auditors. The checklist currently in use is slanted toward the preoperational testing program. Several comments were discussed and the licensee's auditor indicated that the checklist would be revised to incorporate the comments.

6. Witnessing Test Performance

The inspector witnessed performance of TP 202/04, "HPI System Functional Test." The test was being performed as prescribed in the procedure. The test coordinator and the operators conducting the test appeared to be cognizant and competent in performance of their duties. The test was not completed during the inspector's observation.

7. Preoperational Testing Program Status

	No.	%
Tests completed and Results Approved	64	19.4
Tests Completed, Results Not Approved	21	6.4
Tests in Progress	5	1.5
Test Procedures Approved	206	62.3
Test Procedures in Process	34	10.4
Total	331	100

Note: The above does not include hot functional tests.

8. Status of RO's Review of the Preoperational Test Program

Test Category	Tests Reviewed No.	%	Test Results Reviewed No.	%
1	30	18	3	1.8
2	43	30	31	22
3	11	48	7	30

9. Status of System Turnover to Operations from Construction

All major systems have been transferred to operations.

10. Followup on Hydro Test Procedures

During a previous inspection,[1/] the inspector noted that on hydro test procedures, the prerequisites had no signoff spaces to indicate that they had been met. The licensee's representative stated that subsequent hydro tests will include signoff spaces for prerequisite.

This item was reviewed and found as committed. There are no further questions or comments on this item.

1/ See RO Inspection Report 50-270/73-3, Details I, paragraph 6.a.