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TO: Mr. Norman C, Moseley

FROM: Duke Power Co
Charlotte, N. C. 28242
William O. Parker

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PLANT NAME: OCONNE UNIT # 3

jcm 06-24-77

ENCLOSURE Consists of Reportable Occurrence Report (RO-287/77-7) on 05-30-77 concerning Rod overlap regarding Control Rod Drive System exceeded Tech Specs....

2 pages

**ACKNOWLEDGED
DO NOT REMOVE**

NOTE: IF PERSONNEL EXPOSURE IS INVOLVED SEND DIRECTLY TO KREGER/J. COLLINS

FOR ACTION/INFORMATION

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DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

June 13, 1977

TELEPHONE: AREA 704
373-4083

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303



Re: Oconee Unit 3
Docket No. 50-287

Dear Mr. Moseley:

Pursuant to Sections 6.2 and 6.6.2 of the Oconee Nuclear Station Technical Specifications, please find attached Reportable Occurrence Report RO-287/77-7.

Very truly yours,

William O. Parker Jr
William O. Parker, Jr. *by WAH*

LJB:ge
Attachment

cc: Director, Office of Management Information
and Program Control

REGULATORY DOCKET FILE COPY

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RECEIVED DOCUMENT
PROCESSING UNIT

DUKE POWER COMPANY
OCONEE UNIT 3

Report No.: RO-287/77-7

Report Date: June 13, 1977

Occurrence Date: May 30, 1977

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Rod overlap in excess of Technical Specification limits

Conditions Prior to Occurrence: Unit at 99 percent full power

Description of Occurrence:

Oconee Technical Specification 3.5.2.5 specifies an overlap of $25 \pm 5\%$ between two adjacent operating control rod groups. On May 30, 1977, the Control Rod Drive System was given an insert command from the Integrated Control System (ICS). Control rod group 7 began inserting but group 6 failed to respond to the insert signal. When group 6 failed, control rod group 7 continued to drive in to compensate for the entire neutron error seen by the ICS. This resulted in a rod overlap between group 6 and 7 which was less than the overlap required by Technical Specification 3.5.2.5.

The reactor operator promptly took manual control of the Control Rod Drive System but was unable to move group 6 on the first attempt. Control rod group 6 responded to the second manual command and the operator restored the overlap within two and one-half minutes.

The indicated rod overlap between groups 6 and 7 reached approximately 17.85%; however, during this incident, an inoperable position indication tube on rod 1 of group 7 showed an erroneous group average position reading for group 7. Hand calculations using the correct relative position of rod 1 group 7 indicated that the overlap was actually greater than 17.85% but still slightly less than the technical specification requirement.

Apparent Cause of Occurrence:

Investigation of the power supplies for control rod groups 6 and 7 revealed no problems and further testing of groups 6 and 7 verified that both groups were operating properly.

Although no problems could be found with the group 6 power supply programmer, it is postulated that the programmer momentarily failed to respond to the insert command. The group 6 programmer was subsequently replaced. Rod movement tests, which are routinely conducted twice weekly, should reveal any problems associated with the operation of the two control rod groups.

Analysis of Occurrence:

This incident resulted in control rod overlap slightly exceeding technical specification limits for approximately two and one-half minutes. This reduction in control rod overlap did not affect the safe operation of the reactor and no core protection limits were approached.

A proposed change to Technical Specification 3.5.2.5.b was submitted on November 1, 1976. The change will allow a two hour period for restoration of control rod group overlap in the event the prescribed limit of $25\% \pm 5\%$ between two sequential groups is exceeded. Provided that the required shutdown margin limits are maintained, this is considered a reasonably conservative time period in which to initiate appropriate corrective action.

It is concluded that this occurrence did not affect the health and safety of the public.

Corrective Action:

As previously stated, the power supplies for control rod groups 6 and 7 were examined and tested and no equipment failures were found. Since the power supply programmer for group 6 was believed to have failed momentarily, it was replaced as a precautionary measure. Subsequent testing verified that both groups were operating properly.

In addition, as stated in our letter of April 7, 1977 which transmitted Reportable Occurrence Report RO-270/77-4, a modification to improve the control rod drive stator power supply reliability has been initiated and will be implemented on each unit during its respective refueling outage.

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