

DUKE POWER COMPANY

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January 25, 1983

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Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Re: Oconee Nuclear Station  
Docket No. 50-269

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-269/83-01. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 6.6.2.1.a(9), which concerns the discovery during unit life of conditions that require corrective measures to prevent the existence or development of an unsafe condition, and describes an incident which is considered to be of no significance with respect to its effect on the health and safety of the public.

Very truly yours,

*H.B. Tucker / BJS*

Hal B. Tucker

JCP/php  
Attachment

cc: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Mr. W. T. Orders  
NRC Resident Inspector  
Oconee Nuclear Station

INPO Records Center  
Suite 1500  
1100 Circle 75 Parkway  
Atlanta, Georgia 30339

Mr. E. L. Conner, Jr.  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

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Duke Power Company  
Oconee Nuclear Station

Report Number: RO-269/83-01

Report Date: January 25, 1983

Occurrence Date: January 11, 1983

Facility: Oconee Units 1, 2, and 3, Seneca, South Carolina

Identification of Occurrence: Single failure in the Keowee Hydro Woodward Governor System could prevent automatic actuation of emergency power.

Conditions Prior to Occurrence: Oconee 1 100% FP  
Oconee 2 100% FP  
Oconee 3 100% FP

Description of Occurrence: At approximately 1300 hours on January 11, 1983 Design Engineering completed their review regarding a postulated Keowee Hydro unit system event. This concern was identified earlier and reported in LER RO-267/82-11 which mentioned the need for additional evaluation of the Emergency Power Switching Logic (EPSL) System. The review concluded that a potential single failure in the Keowee Hydro Woodward Governor System could prevent automatic actuation of emergency power to be supplied to Oconee Nuclear Station and constituted a viable concern. Lack of control of a Keowee unit speed (relative to load) could keep the EPSL from choosing a Keowee unit capable of supplying full emergency power. Without manual operator actions, equipment failure could result. According to Technical Specification 6.6.2.1.a.(9), this constitutes discovery during unit life of conditions that require corrective measures to prevent the development of an unsafe condition.

Apparent Cause of Occurrence: The apparent cause of this reportable condition is a design deficiency in the switching logic that automatically switches the units' main feeder buses to emergency power source.

Analysis of Occurrence: The Safety Related function of the Keowee Hydro Station regarding emergency power to Oconee Nuclear Station is to supply that power reliably within 25 seconds; this could possibly be extended until operator intervention. However, all licensed operators know the importance of restoring AC power to an affected unit, and operator intervention would transfer the units' loads to the unaffected Keowee unit before a substantial time lag.

During the period of cycling on the affected Keowee unit and if the cycling itself had damaged either the unit or the breakers then the EPSL would have automatically closed in the units' emergency loads to the unaffected Keowee unit.

The probability of a switchyard isolation is low. This is attributed to the high reliability of the Duke System Grid. The probability of the subject failure on the Woodward Governor System is also low based on discussions with

Woodward Governor Company and Keowee Hydro Station management which indicate that this is an isolated occurrence. The probability of the two events above occurring simultaneously is also low. Therefore, the health and safety of the public were not affected.

Corrective Action: All licensed operators were provided the information pertinent to this event through the Shift Technical Advisor Training Program. Included was necessary information to recognize and terminate the event. Design Engineering has initiated actions to evaluate the current design of the Woodward Governor Control System at Keowee along with the design of the EPSL to determine necessary actions/modifications to eliminate the design flaw.