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050-269, 050-270

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DOC DATE: 781031

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COMPANY: Duke Pwr

LTR 3 ENCL 40

SUBJECT:

SIZE: 6

Notice of rev to Tech Spec 3.7 re Auxiliary Elec Sys suppl 780201 rev Spec 3.7.1 is rev to clearly define onsite emergency transmission paths in 125VDC Instr Control Sys & 3.7.2 re degraded elec mode oper.

NOTARIZED ✓

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NOTES: M. Cunningham - All amdts to FSAR & changes to Tech Spes.

App2
ccp

DUKE POWER COMPANY

POWER BUILDING

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

October 31, 1978

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. R. Reid, Chief
Operating Reactors Branch #4

RE: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

REGULATORY DOCKET FILE COPY

Dear Sir:

My letter of February 1, 1978 submitted a proposed revision to the Oconee Nuclear Station Technical Specifications concerning Specification 3.7, Auxiliary Electrical Systems. Subsequent to that submittal, several discussions have been held with the staff on the proposal. As a result of these discussions, several changes have been made to Specifications 3.7.1 and 3.7.2, forty copies of which are attached.

Specification 3.7.1 has been revised to clearly define the onsite emergency transmission paths available at Oconee. The paths are independent from each Keowee Unit to each of the two 4160V main feeder buses per unit. As stated in the Bases, each 4160V main feeder bus can receive power from the 230KV switchyard through the unit's startup transformer, through the unit's auxiliary transformer by backfeeding through the main step-up transformer, or from the 4160V standby bus. A second unit's startup transformer can serve as an alternate supply. The 4160V standby bus can receive power from Keowee through the underground feeder circuit or from a combustion turbine generator at Lee Steam Station. The 230KV switchyard can receive power from the onsite Keowee Hydro Station or from any of several offsite sources.

Additionally, Specification 3.7.1 has been revised to allow operation utilizing the redundancy present in the 125VDC Instrumentation and Control System. As stated in the Bases, each unit has two batteries, and two I & C distribution centers. All reactor protection and engineered safety features loads on this system can be powered by the unit's batteries or the electrically connected alternate unit distribution centers. Thus, a maximum of only five I & C batteries, with their respective chargers, are required to be operable if all three reactors are operating. Because of this installed redundancy, one I & C battery may be inoperable indefinitely.

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Mr. Harold R. Denton, Director
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The 125VDC systems installed at the 230KV Switching Station and at Keowee are redundant in themselves. Each has two independent DC systems which include a battery charger, a battery, a battery charger bus, and DC distribution centers.

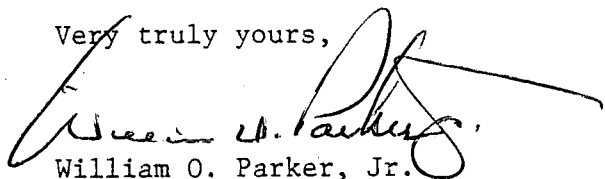
In Specification 3.7.2, the conditions by which unit operation may continue when the electrical systems are in degraded modes are provided. Due to the redundancy of the onsite emergency paths, either path may be inoperable for periods of 72 hours. This would include an entire path being inoperable or a single component in that path. Each Keowee Hydro Unit is a source to one of the paths. The respective Keowee batteries are not considered to be part of the AC generation circuit. Operation with a battery inoperable is more restrictive and is covered under a separate provision of the Specification. The circuits which provide power from the 4160 volt main feeder buses to the individual loads require a higher degree of reliability. They are allowed to be inoperable for only 24 hours. Individual 125VDC systems require a high degree of reliability and each system contains a redundant string. Thus, one string of each 125VDC distribution string may be removed from service at a time for a period of 24 hours.

Allowance has also been made for specific operations associated with 125VDC systems which take more time to perform than allowed in the general provision. The first operation is the test discharge which is required to be performed on each battery annually. The accompanying equalizer battery charges require more than the 24 hours authorized for inoperability in the general provision. As such, 72 hours are included to perform an equalizer charge or the surveillance requirements of Specification 4.6.10. This time period is consistent with the position expressed by the Battery Working Group of IEEE Power Generation Committee in a proposed revision to IEEE-450-1975.

The second operation is the upgrading of the 125VDC 230KV Switching Station battery racks. Again, this operation takes longer than the 24 hour inoperability period allowed. This operation is required for each one of the Switching Station batteries and is estimated that 72 hours will be required to complete the modification for each battery rack.

This submittal has been determined to be a supplement to the initial submittal on this matter of February 1, 1978, and as such, no license fee is provided.

Very truly yours,

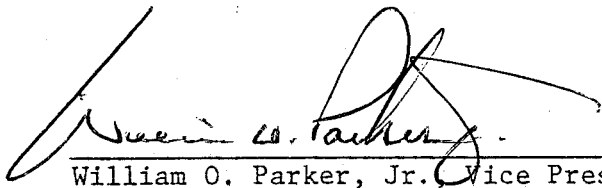


William O. Parker, Jr.

RLG:scs
Attachment (40)

Mr. Harold R. Denton, Director
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WILLIAM O. PARKER, JR., being duly sworn, states that he is Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this request for amendment of the Oconee Nuclear Station Technical Specifications, Appendix A to Facility Operating Licenses DPR-38, DPR-47 and DPR-55; and that all statements and matters set forth therein are true and correct to the best of his knowledge.



William O. Parker, Jr. Vice President

Subscribed and sworn to before me this 31st day of October, 1978.



Notary Public

My Commission Expires:

February 15, 1982

3.7 AUXILIARY ELECTRICAL SYSTEMS

Applicability

Applies to the availability of offsite and onsite electrical power for station operation and for operation of station auxiliaries.

Objective

To define those conditions of electrical power availability necessary to provide for safe reactor operation and to provide for continuing availability of engineered safety features systems in an unrestricted manner and to prescribe safety evaluation and reporting requirements to be followed in the event that the auxiliary electric power systems become degraded.

3.7.1 Except as permitted by 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6, and 3.7.7, the reactor shall not be heated above 200°F unless the following conditions are met.

- (a) At least two 230KV transmission lines, on separate towers, shall be in service.
- (b) Two independent onsite emergency power paths shall be operable and shall consist of:
 1. One Keowee hydro unit; through the underground feeder path; through transformer CT4; and to one 4160 volt standby bus.
 2. The second Keowee hydro unit; through the overhead path and breaker PCB9; the 230KV switchyard yellow bus; through the respective operating unit's start-up transformer or the aligned and connected alternate startup transformer. One start-up transformer may not be aligned to supply power to more than two units.
- (c) Two 4160 volt main feeder buses shall be energized.
- (d) The three 4160 volt Engineered Safety Features switchgear buses, three 600 volt load centers, and the three 600-208 volt Engineered Safety Features MCC buses shall be energized.
- (e) For each unit, all 125 VDC distribution centers, diode monitors, diodes required to supply the unit's four 125 VDC instrumentation and control panelboards and the 120 VAC auxiliary control power panelboards shall be operable. The 125 VDC instrumentation and control batteries with an associated charger shall be operable as follows:
 1. For operation of Unit 1 only, 1CA or 1CB, and 2CA or 2CB
Unit 2 only, 2CA or 2CB, and 3CA or 3CB
Unit 3 only, 3CA or 3CB, and 1CA or 1CB
 2. For operation of any two units, 1CA or 1CB, 2CA or 2CB, and 3CA or 3CB.

1. 230KV Switching Station 125VDC Power System

2. Keowee Hydro Station 125 VDC Power System

3. Each unit's 125VDC Instrumentation and Control Power System

(f) Each 125VDC 230KV Switchyard Battery may be removed from service for a period not to exceed 72 hours in order to install upgraded battery racks.

3.7.3 In the event that the conditions of Specification 3.7.1 are not met within the time specified in Specification 3.7.2, except as noted below in Specification 3.7.4, 3.7.5, 3.7.6, and 3.7.7 the reactor shall be placed in a hot shutdown condition within 12 hours. If these requirements are not met within an additional 48 hours, the reactor shall be placed in the cold shutdown condition within 24 hours.

3.7.4 In the event that all conditions in Specification 3.7.1 are met except that one of the two Keowee hydro units is expected to be unavailable for longer than the test or maintenance period of 72 hours, the reactor may be heated above 200°F if previously shutdown or be permitted to remain critical or be restarted provided the following restrictions are observed.

(a) Prior to heating the reactor above 200°F or prior to the restart of a shutdown reactor or within 72 hours of the loss of one Keowee hydro unit, the 4160 volt standby buses shall be energized by a Lee gas turbine through the 100kV circuit. The Lee gas turbine and 100kV transmission circuit shall be electrically separate from the system grid and off-site non-safety-related loads.

(b) The remaining Keowee hydro unit shall be connected to the underground feeder circuit and this path shall be verified operable within 1 hour and weekly thereafter.

(c) The remaining Keowee hydro unit shall be available to the overhead transmission circuit but generation to the system grid shall be prohibited except for periods of test.

(d) Operation in this mode is restricted to periods not to exceed 45 days and the provisions of this specification may be utilized without prior NRC approval only once in three years for each Keowee hydro unit. Office of Inspection and Enforcement, Region II, will be notified within 24 hours.

3.7.5 In the event that all conditions of Specification 3.7.1 are met except that all 230 kV transmission lines are lost, the reactor shall be permitted to remain critical or be restarted provided the following restrictions are observed:

3. For operation of all three units, five of the six batteries with their associated chargers.

- (f) Both of the 125 VDC 230KV switching station batteries, with their respective chargers, distribution centers, and panelboards shall be operable.
- (g) Both of the 125 VDC Keowee batteries with their respective chargers and distribution centers shall be operable.
- (h) The level of Keowee Reservoir shall be at least 775 feet above sea level.

3.7.2 During hot standby or power operation, provisions of 3.7.1 may be modified to allow the following conditions to exist:

- (a) One of the two independent on-site emergency power paths, as defined in 3.7.1(b), may be inoperable for test or maintenance for 72 hours.
- (b) One 4160 volt main feeder bus may be inoperable for 72 hours.
- (c) One complete single string (i.e., 4160 volt switchgear, 600 volt load center, 600-208 volt MCC, and their loads) of each unit's 4160 volt Engineered Safety Features Power System may be inoperable for 24 hours.
- (d) One or more of the following DC distribution components may be inoperable for periods not exceeding 24 hours (except as noted in 3.7.2(e) and (f) below):
 1. One complete single string or single component (i.e., 125VDC battery, charger, distribution center, and panelboards) of the 125VDC 230KV Switching Station Power System.
 2. One complete single string or single component (i.e., 125VDC battery, charger, and distribution center) of the Keowee 125VDC Power System may be inoperable provided the remaining string of Keowee is operable and electrically connected to an operable Keowee hydro unit.
 3. One complete single string or single component (i.e., 125VDC battery, charger, distribution center, and associated isolating and transfer diodes) of any units 125VDC Instrumentation and Control Power System.
 4. One 125VDC instrumentation and control panelboard and its associated loads, provided no additional AC buses are made inoperable beyond the provisions of 3.7.2.(a), (b), and (c).
- (e) One battery each, from one or more of the following 125VDC systems may be simultaneously inoperable for 72 hours in order to perform an equalizer charge or the surveillance requirements of Specification 4.6.10: