November 4, 1993

Docket Nos.: 50-269, 50-270, and 50-287

MEMORANDUM FOR: Robert A. Hermann, Director
Project Directorate II-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

FROM: Carl H. Berlinger, Chief
Electrical Engineering Branch
Division of Engineering
Office of Nuclear Reactor Regulation

SUBJECT: TASK INTERFACE AGREEMENT (TIA) REQUEST FOR ASSISTANCE IN DETERMINING THE REGULATORY BASIS FOR TESTING MG-6 RELAY AT OCONEE (TIA 93-018)

Plant Name: Oconee Nuclear Station Units 1, 2, and 3
Utility: Duke Power Company
Docket Nos.: 50-269, 50-270, and 50-287
Licensing Status: OR
Resp. Directorate: PD II-3
Project Manager: EELB
Review Status: Complete

By memorandum dated September 23, 1993, Region II requested technical assistance in determining whether Oconee Technical Specification Section 4.6.2 requires testing of a MG-6 relay and other components necessary for the Keowee units to perform their safety function. In addition, if it were determined that this section did not require such testing, we were requested to identify other sections that did. Further, if no section requires such testing, we were requested to determine whether the existing Technical Specifications should be modified to require such testing. We have reviewed the information contained in the documents provided as well as other related information. By memorandum dated October 29, 1993, we provided you our interim response on this subject and we are now providing our completed evaluation by this memorandum and its enclosure.

From this review, we conclude that Technical Specification Section 4.6.2 could be **interpreted** to implicitly require testing of MG-6 relay as an associated equipment component. Also Section 4.6.5 could be **interpreted** to implicitly require testing of the relay since it must work before an isolated power path can be established between a Keowee hydro unit and Oconee.

Since an **interpretation** based upon such an implicit requirement is neither obvious nor clear, is not mutually agreed upon, and is not explicit; we must conclude that testing of MG-6 is not required by those two specific sections or any other section of the Oconee Technical Specifications. Testing of the MG-6 relay and the adequacy of Oconee Technical Specifications will be addressed in the future as part of our

review of the improved Oconee Technical Specifications for the electrical systems.

If you have any question about this matter, please contact Duc Nguyen or Frederick Burrows of my staff at 504-3202 or 504-2901 respectively.

Enclosure: Task Interface Agreement

Origional Signed By
Carl H. Berlinger
Carl H. Berlinger, Chief
Electrical Engineering Branch
Division of Engineering
Office of Nuclear Reactor Regulation

CONTACTS: Duc Nguyen, EELB/DE
504-3202
Frederick Burrows, EELB/DE
504-2901

CF ADOCK 05000269

CF

DISTRIBUTION w/enclosure
JTWiggins, NRR
BDLiaw, NRR
CHBerlinger, NRR
EWWeiss, NRR
FAshe, NRR
DNguyen, NRR
FBurrows, NRR
GLainas, NRR
LWiens, NRR
Central Files
EELB R/F
Oconee S/F

Document Name: G:\SHARED\OCOTIA.MEM

EELB:DE:NRR EELB:DE:NRR SC/EELB:DE:NRR C\EELB:DE:NRR

DNguyen	FBurrows	EWWeiss	CHBerlinger
11/02/93	11/02/93	11/02/93	11/03/93

Enclosure

TASK INTERFACE AGREEMENT REQUEST FOR ASSISTANCE IN DETERMINING THE REGULATORY BASIS FOR TESTING MG-6 RELAY AT OCONEE (TIA 93-018)

INTRODUCTION

On September 29, 1993, Keowee Unit 2 was found to be inoperable when aligned to the overhead emergency power path as a result of a faulty MG-6 relay. The MG-6 relay provides a permissive signal for automatic closure of the Keowee Unit 2 output air circuit breaker (ACB), ACB 2, to indicate that the Keowee main step-up transformer has deenergized. During a post modification test following installation of interlocks on ACB 1 and ACB 2, MG-6 failed to function because of inadequate gap in contacts and ACB 2 failed to close. It was concluded that ACB 2 would not have closed under design-basis accident conditions and that Keowee Unit 2 has been inoperable for an indeterminate period of time if automatic alignment to the overhead path would have been required. The licensee had never included MG-6 in any part of their test program for verifying the operability of the Keowee emergency power path and therefore had no programmatic method to identify the problem.

By memorandum dated September 23, 1993, Region II requested technical assistance in determining whether Oconee Technical Specification (TS) Section 4.6.2 requires testing of a MG-6 relay and other components necessary for the Keowee units to perform their safety function. In addition, if it were determined that this section did not require such testing, we were requested to identify other sections that did. Further, if no section requires such testing, we were requested to determine whether the existing Technical Specifications should be modified to require such testing.

STAFF EVALUATION

Determine Whether TS Section 4.6.2 Requires Testing of MG-6 Relay And Other Components Necessary for the Keowee Units to Perform Their Safety Function

Technical Specification Section 4.6.2 requires that the Keowee hydro units be started using the emergency start circuits in each control room to verify that each hydro unit and associated equipment is available to carry load within 25 seconds of a simulated requirement for engineered safety features. Promptly following this annual test, each hydro unit will be manually loaded to at least the combined load of the auxiliaries actuated by ESG signal in one unit and the auxiliaries of the other two units in hot shutdown by synchronizing the hydro unit to the offsite

power system and assuming the load at the maximum practical rate.

The intent of Technical Specification Section 4.6.2 is to demonstrate that Keowee hydro units will start and accelerate to rated speed and voltage within 25 seconds upon receiving an emergency start signal. After reaching rated voltage and speed, each Keowee hydro unit is then manually loaded by synchronizing the hydro unit to the offsite power system and assuming load at the maximum practical rate. In the synchronization/manual loading process, the MG-6 circuitry used to confirm the deenergization of Keowee Step-up transformer is not required to be operable during this surveillance since it only provides a permissive for automatic closure of ACB 1 or ACB 2. Therefore, one could conclude that testing of MG 6 is not required by TS 4.6.2. On the other hand, others could **interpret** that the MG-6 circuitry for ACB 1 or 2 could be a part of the "associated equipment" referred to in TS 4.6.2 and is required to be operable so that each hydro unit may be available to carry load within 25 seconds following an engineered safety actuation and loss of offsite power event. If MG-6 is inoperable, one of the automatic close permissives to either Keowee hydro ACB 1 or 2 will be disabled and an isolated overhead power path between Keowee and Oconee can not be established. However, this **interpretation** is not obvious since the words "associated equipment' are not clearly defined in the Technical Specifications. Since each **interpretation** is neither obvious nor clear, is not mutually agreed upon by the staff, and is not based on explicit requirements, we conclude that testing of MG-6 is not required by this specific section of the Oconee Technical Specifications.

If It Were Determined That This Section Did Not Require Such Testing, Identify

Any Other Sections That Did.

Technical Specification Section 4.6.5 requires that quarterly, the External Grid Trouble Protection S"Y'stem (EGTPS) logic shall be tested to demonstrate its ability to provide an isolated power path between Keowee and Oconee.

The requirement of TS Section 4.6.5 is to test just the EGTPS logic. Since a search of related documentation has not indicated explicitly that the MG-6 circuitry is part of EGTPS logic, one can conclude that the TS Section 4.6.5 would not encompass testing of the MG-6 circuitry. On the other hand, TS Section 4.6.5 could be **interpreted** to implicitly require testing of the MG-6 relay since the test must demonstrate the logic's ability to provide an isolated power path between Keowee and Oconee and since the MG-6 circuitry associated with the output ACB of the Keowee unit aligned to the overhead path must operate in order to completely establish the overhead power path between a Keowee hydro unit and the Oconee Station. Nevertheless, each **interpretation** is neither obvious nor clear, is not mutually agreed upon by the staff, and is not explicit; thus we conclude that testing of MG-6 is not required by TS Section 4.6.5.

CONCLUSION

We believe that TS Section 4.6.2 could be **interpreted** to implicitly require testing of the MG-6 relay as an associated equipment item. Also TS Section 4.6.5 could be **interpreted** to implicitly require testing of the relay since it must be operable in order to establish the overhead path between a Keowee hydro unit and Oconee. But, since an **interpretation** based upon such an implicit requirement is neither obvious nor clear, is not mutually agreed upon by the staff, and is not explicit; we must conclude that testing of MG-6 is not required by these two specific

sections of the Oconee Technical Specifications. Also, we did not identify any other TS section that requires testing of the MG-6 relay. In addition, testing of the MG-6 relay and the adequacy of Oconee Technical Specification will be addressed as part of our review of the improved Oconee Technical Specifications for the electrical systems.

Principal Contributors: D. Nguyen
F. Burrows

Search text: **interpretations**
Document 1 of 20
Title: **tia/tia93018.htm**

December 15, 1993

Docket Nos. 50-387
and 50-388

Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light
Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Dear Mr. Byram:

SUBJECT: INTERPRETATION OF TECHNICAL SPECIFICATION 3.3.2, SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (PLA-4062) (TAC NO. M40298)

The NRC agrees with your interpretation of Technical Specification Section 3.3.2, as documented in your letter of December 14, 1993. It is not necessary to have two (2) operable trip systems for reactor vessel water level-low low, level 2, while Unit 2 is shutdown, provided you will not be performing any operations with the potential for draining the Unit 2 reactor vessel or performing any core alterations for Unit 2.

If you have any comments or questions please call me at (301) 504-1402.

Sincerely,
Original signed by
Richard J. Clark

Richard J. Clark, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

cc: See next page

DISTRIBUTION

Docket File	RClark	ACubbage
NRC & Local PDRs	MO'Brien	CSchulten
PDI-2 Reading	OGC	
SVarga	ACRS(10)	
JCalvo	EWenzinger, RGN-I	
CMiller	JWhite, RGN-I	

OFFICE	PDI-2/LA	PDI-2/PM	PDI-2/D		
NAME	MO'Brien	RClark:rb	CMiller		
DATE	12/ /93	12/15/93	12/15/93		

OFFICIAL RECORD COPY
DOCUMENT NAME: SU40298.GEN

DF01
1/0

170033

OFFICIAL RECORD COPY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 15, 1993

Docket Nos. 50-387
and 50-388

Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light
Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Dear Mr. Byram:

SUBJECT: INTERPRETATION OF TECHNICAL SPECIFICATION 3.3.2, SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (PLA-4062) (TAC NO. M40298)

The NRC agrees with your interpretation of Technical Specification Section 3.3.2, as documented in your letter of December 14, 1993. It is not necessary to have two (2) operable trip systems for reactor vessel water level-low low, level 2, while Unit 2 is shutdown, provided you will not be performing any operations with the potential for draining the Unit 2 reactor vessel or performing any core alterations for Unit 2.

If you have any comments or questions please call me at (301) 504-1402.

Sincerely,

Richard J. Clark

Richard J. Clark, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

cc: See next page

B/20

cc:

Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street N.W.
Washington, D.C. 20037

Bryan A. Snapp, Esq.
Assistant Corporate Counsel
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. J. M. Kenny
Licensing Group Supervisor
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. Scott Barber
Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P.O. Box 35
Berwick, Pennsylvania 18603-0035

Mr. William P. Dornsife, Director
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
P. O. Box 8469
Harrisburg, Pennsylvania 17105-8469

Mr. Jesse C. Tilton, III
Allegheny Elec. Cooperative, Inc.
212 Locust Street
P.O. Box 1266
Harrisburg, Pennsylvania 17108-1266

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Mr. Harold G. Stanley
Vice President-Nuclear Operations
Susquehanna Steam Electric Station
Pennsylvania Power and Light Company
Box 467
Berwick, Pennsylvania 18603

Mr. Herbert D. Woodeshick
Special Office of the President
Pennsylvania Power and Light Company
Rural Route 1, Box 1797
Berwick, Pennsylvania 18603

George T. Jones
Vice President-Nuclear Engineering
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101