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RECIP.NAME RECIPIENT AFFILIATION
VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Forwards summaries of util positions re auxiliary feedwater sys operability Tech Spec, automatic initiation of sys independent of ac power & protection of source of sys from tornado missles.

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CP&L

Carolina Power & Light Company

June 8, 1981

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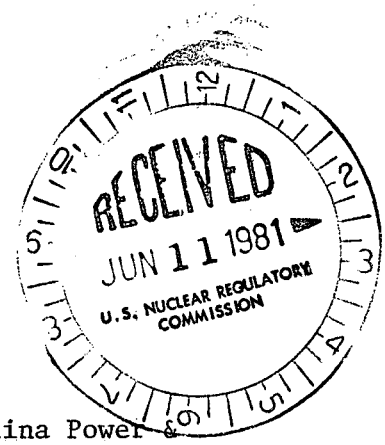
Office of Nuclear Reactor Regulation
ATTENTION: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
United States Nuclear Regulatory Commission
Washington, D. C. 20555



H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
AUXILIARY FEEDWATER SYSTEM

Dear Mr. Varga:

At a meeting held on March 18, 1981 between Carolina Power & Light Company (CP&L) and you and your Staff, it was requested that CP&L provide a summary of our positions on the Auxiliary Feedwater System (AFW) issues under discussion and a listing of previously submitted reference material. This letter provides the response to that request. Attached are summaries of CP&L's positions on the three unresolved AFW issues; GS-2, AFW Operability Technical Specification; GL-3, Automatic Initiation of AFW Independent of AC Power; and, NRC Additional Long-Term Recommendation Number 4, Protection of a Source of AFW from Tornado Missiles. Additionally, a list of reference letters previously submitted by CP&L is also attached.

As we have previously indicated in our correspondence and in our discussions with you and your Staff, CP&L believes that our positions and proposals on items GS-2 and GL-3 meet the goals of increased reliability and safety expressed by the NRC while maintaining adequate operational flexibility. With respect to the third unresolved issue, we are continuing our investigations into protection of AFW sources from tornadic missiles. If you have any further questions on this subject, please contact our staff.

Yours very truly,

E. E. Utley
Executive Vice President
Power Supply and
Engineering & Construction

JJS/jc (7805)
Attachments

cc: Mr. J. D. Neighbors (NRC)

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411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

RECOMMENDATION GS-1

AFW Operability Technical Specification

The central issue on this item is the length of time the AFW pumps may be out of service before a plant shutdown is started. It is CP&L's understanding that the NRC goal in placing limits on the AFW pumps' out-of-service time is to increase the realibility of the AFW and thereby increase the safety of the plant. NRC has stated a desire to increase AFW reliability by a factor of 10 to 30. Currently, the H. B. Robinson Technical Specifications allow one out of three AFW pumps to be out of service indefinitely and two out of three pumps to be out of service for 24 hours. (Only one pump is required to provide sufficient feedwater to the steam generators to satisfy the safety analysis.) CP&L agrees with the NRC's desire to increase the reliability of the AFW System and therefore recommends that all three AFW pumps be put under Technical Specifications with a seven-day (7) out-of-service limit for the first pump and a 24-hour out-of-service limit for the second pump. Historical data from H. B. Robinson during the past four years shows that this proposed change in Technical Specifications will increase AFW availability by a factor of approximately eleven (11).

NRC has proposed out-of-service times of 72 hours for the first pump and zero (0) hours for the second pump. CP&L considers these times inappropriate for two reasons. First, the seven-day, 24-hour limits proposed by CP&L have been shown to meet NRC's objective to increase AFW availability by at least a factor of 10, thus shorter time requirements are unnecessary. Second, the shorter time requirements could potentially lead to a decrease in plant safety. This decrease in plant safety is caused by the fact that AFW is required to be available to provide feedwater any time the plant goes into hot shutdown. Therefore, if one pump is out of service and a second pump fails to start on test, it would not be prudent from a safety point of view to immediately proceed to hot shutdown, thereby shutting down both operating main feedwater pumps and unnecessarily challenging the last remaining AFW pump. For

this reason, CP&L feels that a 24-hour limit on the second pump allows a reasonable amount of time to determine the cause of pump failure and assure that no common mode effect will defeat the last remaining pump. A similar philosophy applies to the 72-hour out-of-service time limit. The maintenance history at H. B. Robinson indicates that seven (7) days is a reasonable time frame in which to perform major maintenance on the AFW steam turbine pump. This is primarily due to the necessity of having a field service representative from the pump manufacturer onsite to direct major work on the pump. Again, it would not be prudent from a safety point of view to unnecessarily challenge the remaining two AFW pumps when the third pump is undergoing repair and could be back in service in another 96 hours.

Therefore, CP&L believes that the above positions adequately justify a seven-day (7) operability requirement for one pump and a 24-hour operability requirement for two pumps from both an improved AFW system availability and a safety standpoint.

RECOMMENDATION GL-3

Automatic Initiation of AFW Independent of AC Power

The central issue on this item is the NRC recommendation that the AFW System be able to automatically initiate and operate independently of all AC power. The H. B. Robinson AFW System can operate independently of AC power; however, manual actions (valve manipulation/control) are required to initiate and control the flow of feedwater. It is CP&L's understanding that the NRC considers the potential loss of all AC power as a major detraction from the reliability of the AFW System. CP&L disagrees with the position that loss of all AC power is a credible event at H. B. Robinson. During the entire 20 years of operation (includes both fossil and nuclear operation), there has never been a loss of offsite AC power at the H. B. Robinson site. Figure 1 depicts the H. B. Robinson 115 kV and 230 kV switchyard arrangement identifying the diverse sources of offsite power. In addition, in the extremely unlikely event that a loss of offsite power were to occur, H. B. Robinson Unit No. 2 has two redundant emergency diesel generators, each of which can supply sufficient power to initiate and operate AFW. There has never been a simultaneous failure of both diesels to start and run on a demand signal. Additionally, H. B. Robinson has recently added a third diesel generator as part of the Dedicated Shutdown (DS) System. This diesel can provide power to locally operate the steam driven AFW pump train from the DS panel on the turbine deck (one manual valve operation is required).

Finally, if a loss of offsite power occurred and both diesel generators failed, and concurrently the dedicated shutdown diesel generator failed, the steam driven AFW train can still be operated manually. The procedures for manually initiating and operating the AFWS, independent of all AC power, are currently implemented at H. B. Robinson, and operator "walk-throughs" have demonstrated that the procedures can be implemented in under five minutes. The required time limit based on conservative analysis to initiate feedwater flow to the steam generators is 30 minutes (WCAP-9600).

In conclusion, CP&L has taken significant steps to improve the reliability of the AFW System with regard to the potential loss of AC power by installing the Dedicated Shutdown System and implementing the necessary training and procedures. To require automatic initiation of AFW independent of AC power, exceeds the plant's design and licensing basis, imposes tremendously costly hardware changes upon the Company, and derives little or no improvement in the protection of the health and safety of the public. Therefore, CP&L feels that this requirement is unwarranted.

NRC ADDITIONAL LONG-TERM RECOMMENDATION NO. 4

Tornado Protection of AFWS Water Sources

At the March 18, 1981 meeting, the NRC stated that H. B. Robinson had only two AFW water sources; the condensate storage tank and the service water pumps. NRC did not consider the three deep well pumps since they are not powered from the emergency busses. This position was not previously known by CP&L. CP&L is currently reviewing the best course to pursue with respect to this issue. We will provide a complete response to this item by July 31, 1981.

REFERENCES

CP&L-NRC Correspondence on AFWS-SER

1.	NRC - D. Eisenhut to J. Jones	9/21/79	NRC Requirements for AFWS
2.	CP&L - E. Utley to D. Eisenhut	10/31/79	Response to 9/21/79 letter
3.	NRC - A. Schwencer to J. Jones	3/31/80	Response to 10/31/79 letter
4.	CP&L - E. Utley to D. Eisenhut	4/29/80	Additional response to 9/21/79 letter
5.	CP&L - E. Utley to A. Schwencer	5/15/80	Response to 3/31/80 letter
6.	CP&L - E. Utley to S. Varga	6/10/80	Tornado Analysis of AFW Water Supply
7.	NRC - S. Varga to J. Jones	12/2/80	AFWS SER
8.	CP&L - E. Utley to S. Varga	1/9/81	Response to 12/2/80 letter

ADDITIONAL INFORMATION

1.	CP&L - E. Utley to A. Schwencer	2/1/80	Description of Dedicated Shutdown System
2.	CP&L - E. Utley to A. Schwencer	3/21/80	Auxiliary Shutdown System
3.	CP&L - E. Utley to S. Varga	6/2/80	Description of Dedicated Shutdown System
4.	WCAP-9600 (Westinghouse Owners' Group)	6/79	Report on Small Break Accidents for Westinghouse NSSS (Proprietary)

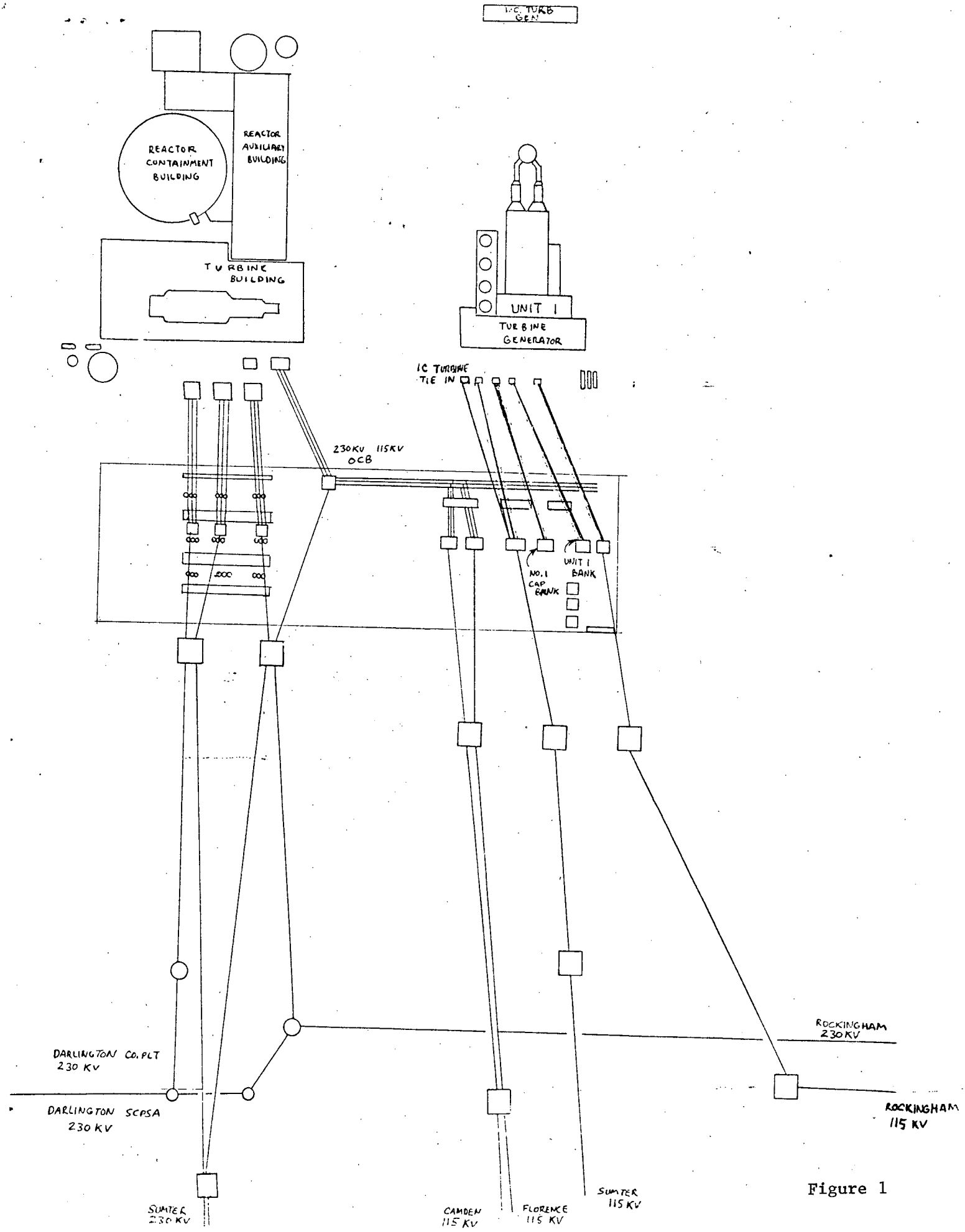
I.C. TURB GEN
REACTOR CONTAINMENT BUILDING
REACTOR AUXILIARY BUILDING
TURBINE BUILDING
UNIT 1
TURBINE GENERATOR
IC TURBINE TIE IN
230KV 115KV OCB
NO. 1 CAP BANK
UNIT 1 BANK
ROCKINGHAM 230KV
DARLINGTON CO. PLT 230 KV
DARLINGTON SCPSA 230 KV
ROCKINGHAM 115 KV
SUMTER 230 KV
CAMDEN 115 KV
FLORENCE 115 KV
SUMTER 115 KV

Figure 1