UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	'84 MAR 22 A10:52
	)	
DUKE POWER COMPANY, Et al.	)	Docket Nos. 50-413
	)	50-414
(Catawba Nuclear Station, Units 1 and 2)	)	OFFICE OF SECRETARY DOCKETING & SERVICE BRANCH

CESG'S INTERROGATORIES TO DUKE POWER REGARDING EMERGENCY DIESEL COTENTIONS ADMITTED BY ATOMIC SAFETY AND LICENSING BOARD

These interrogatories are supplemental to those filed jointly for CESG and Palmetto Alliance re the admitted diesel generator contentions.

Crankshaft Contention

1. At the time Catawba DG pistons were removed for further heat treatment of piston skirts, were all crankshaft fillets examined for cracks? What examination methods were used?

2. Are the manufacturing drawings, specifications, and metallurgy identical for the Grand Gulf and the Catawba DGs? If not define the differences. Provide serial numbers and dates of manufacture for both.

ASLB's Contention

3. In regard to the NRC staff's questions of December 30, 1983, specifically DPC's response to 8., describe fully and completely the failure of the turbo bearing both physically and functionally.

4. What was wrong with the replaced governor box, response to 8?

5. In view of the response EL40114D/16, define "actual reliability" in the context. What incidents would have a significant bearing on the actual reliability?

6. Would a significantly failed turbocharger bearing make a Catawba DG inoperable? What would the consequence be of a seized turbocharger shaft? What effect would an inoperative turbocharger have on the power output of a Catawba DG--in quantitative terms?

7. Are there any failure modes of a governor box which would interfere with DG reliability? If so, what are they?

8. Regarding response 9., what additional tests and inspections willbe performed on DGs 1B, 2A, and 2B?

DS03

9. What design and operability requirements were specifically imposed on TDI in the purchase contract in regard to reliability and durability? Define reliability and operability as you use these terms. If you use the term durability, please define.

10. Did Duke know of the history of TDI diesel performance on the Alaska ferry, Columbia, at the time of executing the purchase contract with TDI? If not, when did DPC learn?

11. Did TDI offer the state of Alaska as a reference during the procurement stage? Did TDI offer references? If so, please list.

12. Regarding response 12. to Staff; what Catawba DG items were repaired? Used-as-is?

13. Define "valid test reliability" as it is used. What assurance is there that 98% valid test reliability will insure safe shutdown?

14. Are the Grand Gulf DG failures: piston crown separations, piston skirt cracks, fuel line failures, cylinder head cracks, turbocharger problems, push rod cracks, air starter valve problems and a generator short, consistent with the reliability required for a safe-shutdown device?

15. Regarding response to 12., how do you reconcile the problems encountered with TDI DGs with your conclusion that "the TDI generators were reliable"? Was this the uniform, unqualified response of those you queried? Specify each individual responding for each concern by name and by job title.

16. Do you concur with the conclusion referenced in 15. foregoing?

17. Has DPC at any time talked or corresponded with a mechanical supervisor or superintendent or engineer of the state of Alaska in connection with the performance of TDI diesels on the MV Columbia? the operators of the MV Pride of Texas? of the MV E. H. Gott? If so, provide the complete record of these communications.

18. Is it possible to assemble individual components each satisfactory in regard to QC into an unsatisfactory diesel engine?

19. Provide the code criteria, all applicable, for diesel cylinder heads; the relation between HP per cubic inch and cylinder head specifications; ditto piston crowns and piston skirts.

20. Were the 1097 hours run by Grand Gulf Div. I DG trouble free? Was operation at any time interupted by malfunction or anticipated malfunction and increased damage? Please list.

21. Same question as 20. for Div. II Grand Gulf DG. For both, provide load levels during tests.

22. What parts of Catawba DG 1A were dye penetrant tested at the time of removing piston skirts for further heat treatment?

23. In reference to 12(4)7, what corrective action has been taken in regard to cylinder head cracks? Will cylinder head cracks be dealt with on a case-by-case basis or generically?

24. What are the relations of Moser lines, yellow and red buses, and the plant's 22 kV bus. Please provide diagram.

25. How were the faults that developed as a result of the Moser pole failure cleared?

26. Did DPC require preventive maintenance programs of TDI at the time of procurement? Was such a requirement absent from the purchase specifications?

27. During a blackout how many DGs are required for the shutdown of one nuclear unit? During a LOCA?

28. Is there a program for regular inspections of the DGs on some predetermined basis? If so what are the intervals and what are the inspection procedures?

29. What criteria were used to decide that a piston skirt required a second heat treatment from TDI? How many such were there?

Respectfully submitted,

Jesse L. Riley for CESG

March 19, 1984

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AFFIRMATION OF SERVICE

I hereby affirm that copies if "CESG'S INTERRROGATORIES TO DUKE[POWER REGARDING EMERGENCY DIESEL CONTENTIONS ADMITTED BY ATOMIC SAFETY AND LICENSING BOARD" in the above captioned matter were served on the following by deposit in the United States mail this 19th day of March, 1984, with the exception of the copy to Mr. Ron Shearin which was hand-delivered on this date:

James L. Kelley, Chairman
Atomic Safety and Licensing Board
Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. Paul W. Purdom
235 Columbia Drive
Decatur, Georgia 30030

Dr. Richard F. Foster
P. O. Box 4263
Sunriver, Oregon 97702

Chairman
Atomic Safety and Licensing
Board Panel
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Chairman
Atomic Safety and Licensing
Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Richard P. Wilson, Esq.
Assistant Attorney General
State of South Carolina
P. O. Box 11549
Columbia, South Carolina 29211

Robert Guild, Esq.
Attorney-at-Law
P. O. Box 12097
Charleston, South Carolina 29412

Palmetto Alliance
2135 1/2 Devine Street
Columbia, South Carolina 29205

Ron Shearin, Esq.,
Duke Power Company
P. O. Box 33189
Charlotte, N. C. 28242

George E. Johnson, Esq.
Office of the Executive Legal
Director
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Karen E. Long
Assistant Attorney General
N. C. Department of Justice
P. O. Box 629
Raleigh, North Carolina 27602

Scott Stucky
Docketing and Service Section
U. S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Don R. Willard
Mecklenburg County
Department of Environmental
Health
1200 Blythe Boulevard
Charlotte, North Carolina 28203

Michael J. McGarry, III, Esq.
Bishop, Liberman, et al
1200 Seventeenth Street, N.W.
Washington, D.C. 20036

Jesse L. Riley