

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
DUKE POWER COMPANY, Et al.)
(Catawba Nuclear Station,)
Units 1 and 2))

84 MAR 22 10:52
Docket Nos. 50-413
50-414
OFFICE OF THE SECRETARY
BRANCH

CESG'S INTERROGATORIES TO DUKE POWER REGARDING EMERGENCY
DIESEL CONTENTIONS 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.

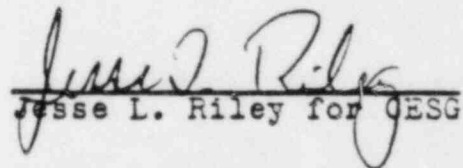
ASLB's Contention

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 will be performed on DGs 1B, 2A, and 2B?

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 interrupted 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 QESG

March 19, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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AFFIRMATION OF SERVICE

I hereby affirm that copies of "CESG'S INTERROGATORIES 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:

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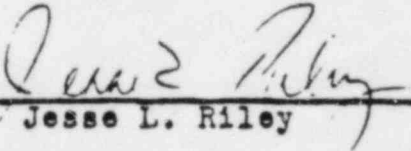
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