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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Board OFFICE OF SECRETARY  
MARKETING & SERVICE  
BRANCH

In the Matter of )

CLEVELAND ELECTRIC ILLUMINATING )  
COMPANY, et al. )Docket Nos. 50-440  
50-441  
(OL)(Perry Nuclear Power Plant, )  
Units 1 and 2) )OCRE'S ELEVENTH SET OF INTERROGATORIES TO APPLICANTS

Intervenor Ohio Citizens for Responsible Energy ("OCRE") hereby files its eleventh set of interrogatories to Applicants, pursuant to 10 CFR 2.740b and the Licensing Board's December 23, 1983 Memorandum and Order (New Contention of Diesel Generators).

## Interrogatories: Issue #16

Statement of Purpose: The following interrogatories are designed to provide clarification to some of Applicants' responses to OCRE's tenth set of interrogatories and to information presented at the Jan. 26, 1984 meeting between the NRC Staff and TDI DG Owners (see Staff Report, dated Feb. 2, 1984) and in various Board Notifications.

11-1. In Applicants' response to OCRE Interrogatory 10-10, it is stated that TDI was selected on the basis of quality, reliability, and experience.

- (a) At the time of the award of the contract to TDI, had TDI manufactured any DGs for use as standby power units in nuclear facilities? If so, list the facilities, and date of installation and operation of the DGs.
- (b) Did Applicants (or any of their agents) at any time contact any users of TDI diesel engines (including non-nuclear users, e.g., ship owners) for their experience with TDI's quality and reliability?

If so, list all users so contacted, and produce any correspondence, notes, etc. concerning such contact. If no contacts were made, why not?

- 11-2. Enclosure 3 to the Staff Report dated Feb. 2, 1984, p. 3 of the attachment concerning Region IV Inspection Findings at TDI, item #8, states that "a QA program was not imposed on the manufacturer of exhaust silencers for EDGs furnished to Perry, Units 1 and 2, as required by Perry Specification No. SP-750-4549-00 and SP-706-4549-00."
- (a) When and how did Applicants become aware of this deficiency?
  - (b) What has been determined to be the cause of the deficiency?
  - (c) What corrective actions were taken as a result?
- 11-3. Enclosure 4, the transcript of the meeting of Jan. 26, 1984, at p. 18 refers to the absence of any documented provisions for control of installation of fuel oil line clamps; this is considered by the Staff to be a generic problem.
- (a) When and how did Applicants become aware of this deficiency?
  - (b) What corrective actions have been taken?
- 11-4. What corrective actions are planned by Applicants to avoid cylinder head cracks, which have plagued Shoreham, Grand Gulf, and marine users of TDI diesel engines?
- 11-5. (a) What style piston (AF, AN, or AE) is used in the PNPP DGs?
- (b) Have the pistons been relieved of all stress raisers? Provide documentation of this.
  - (c) Has the piston crown-skirt separation problem (as occurred at Grand Gulf) been investigated for the PNPP DGs? Are they susceptible to this problem? What corrective actions are planned?
  - (d) Have the pistons been heat treated in accordance with the appropriate specifications? P. 88 of Enclosure 4, the transcript of the Jan.

26, 1984 meeting, mentions a Part 21 problem with heat treating.

Explain the nature of this problem and how it affects the PNPP

DGs; include any corrective actions planned,

- 11-6. What are the dimensions of the diesel engine cylinder liner, specifically, the lip, and of the cylinder block counterbore? Include dimensions of all fillets and radii. Are there any drilled holes or stud threading terminating at the same level as the counterbore in the block?
- 11-7. Does TDI have different personnel, equipment, and quality standards and practices for engines to be used in nuclear safety-related applications as opposed to non-nuclear projects (e.g., marine uses)? Document any such differences.
- 11-8. To what extent are the Perry engines similar to the V-16 TDI engines used in the State of Alaska's M/V Columbia? Document the major differences between the PNPP and M/V Columbia engines.
- 11-9. Regarding the Design Review/Quality Revalidation Program set forth by the TDI Owners Group at the Jan. 26, 1984 meeting with the NRC:
- (a) Do Applicants endorse this program and intend to implement it for the PNPP DGs?
  - (b) Will the identification and selection of parts for review be based exclusively on the TDI parts list?
  - (c) Will the design/quality review of components in the PNPP engines identified from the TDI parts list as common to the lead engines (Shoreham and Grand Gulf) as well be based exclusively on the lead engine reviews (i.e., common parts on lead engines are considered representative for all; no PNPP-unique review will be done)?
  - (d) Will the quality revalidation of components rely exclusively on spare or replacement parts (and not on parts actually used in

the engines) unless the spares are unavailable?

- (e) Will the Perry engines be inspected to ensure that the parts identified on the TDI parts list and the spare/replacement parts are in fact identical to those used in the PNPP DGs?
- (f) Given the repetitive deficiencies of TDI in the area of part/component identification, traceability, and standardization (e.g., experiences of the State of Alaska with the M/V Columbia, described in BN-84-018), justify any uncritical use of TDI data (e.g., parts list) and any reliance on the quality of spare/replacement parts or conditions in other TDI engines as a substitute for the complete dismantling, inspection, and testing of each PNPP diesel engine to determine the quality thereof.

- 11-10. (a) Do Applicants have any plans to ever replace the TDI DGs with those from another manufacturer in PNPP Unit 1?
- (b) In Unit 2?
  - (c) If not, why not?
  - (d) Is this an option in the Design Review/Quality Revalidation Program?

- 11-11. (a) Do Applicants share the opinion voiced at the Jan. 26, 1984 meeting (see Tr. 46-47) that the Owners Group Design Review/Quality Revalidation Program will be successful? If so, what is the basis for this optimism?
- (b) What is meant by "success" of the program? What criteria and standards are used to define "success" of the program?
  - (c) If the program is not successful, what actions will be taken?
  - (d) How many failures or quality deficiencies are necessary before Applicants or the Owners Group will conclude that TDI diesel engines are unreliable and unfit for nuclear service? I.e., is there any number or type of failure considered unacceptable?

- 11-12. What influence do cost/schedule factors (i.e. delay of fuel load or power operation) have on the Design Review/Quality Revalidation Program and on decisions or conclusions made during that program?
- 11-13. Is the Design Review/Quality Revalidation Program only a program to determine interim reliability, or is it intended to justify the use of TDI DGs for the entire life of the plant?
- 11-14. (a) Will the Design Review/Quality Revalidation Program attempt to find the root cause of TDI engine unreliability?
- (b) If so, explain how this is to be accomplished.
- (c) If not, why not?
- (d) If so, what effect will this determination have on the final decision regarding the acceptability of TDI engines?
- 11-15. (a) What role will TDI personnel have in the Design Review/Quality Revalidation Program?
- (b) To what extent will TDI personnel be responsible for evaluating the adequacy of their own products?
- (c) To what extent will Applicants/Owners Group rely on the judgements or statements of TDI personnel?
- (d) Name all TDI personnel to be involved in the Program.
- (e) Are there any contractual arrangements between Applicants/Owners Group and TDI for services or advice regarding the Design Review/Quality Revalidation Program? Supply the details of any such contract.

Respectfully submitted,



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CERTIFICATE OF SERVICE

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This is to certify that copies of the foregoing were served by deposit in the U.S. Mail, first class, postage prepaid, this 18<sup>th</sup> day of February, 1984 to those on the service list below.

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