



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
July 5, 1984

CF

Docket Nos.: 50-322
50-329/330
50-413/414
50-440/441

MEMORANDUM FOR: Chairman Palladino
Commissioner Gilinsky
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal

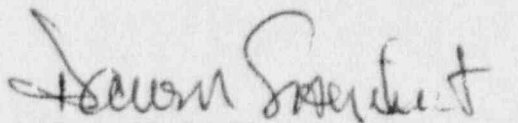
FROM: Darrell G. Eisenhut, Director
Division of Licensing

SUBJECT: BOARD NOTIFICATION 84-127
(1) TRANSAMERICA DELAVAL, INC. (TDI) OWNERS GROUP
REPORTS
(2) CONFLICT OF INTEREST DETERMINATION RE: PACIFIC
NORTHWEST LABORATORIES

In accordance with procedures for Board Notifications, this information is being provided directly to the Commission. The appropriate Boards and Parties are being informed by copy of this memorandum. This information is relevant to all facilities that have diesel generators manufactured by TDI including Midland, Shoreham, Catawba, and Perry which are currently before the Commission.

The TDI Owners Group has recently submitted reports related to the ongoing design reviews of TDI diesel generator components. These reports are listed in Enclosure 1. Previous TDI Board Notifications had transmitted copies of the reports. This practice is being discontinued due to the large number of Owners Group reports being submitted. These reports will be available in the Local Public Document Rooms of those plants with TDI engines.

The Division of Licensing, NRC has sought guidance from the Office of the Executive Legal Director (OELD), NRC regarding a potential conflict of interest for our contractor on TDI diesel reliability, Battelle Pacific Northwest Laboratories. Enclosure 2 contains the determination of OELD in this matter.


Darrell G. Eisenhut, Director
Division of Licensing

cc: See next page

8407120389

The Commissioners

-2-

Enclosures:
As stated

cc w/enclosures:

SECY (2)

OPE

OCC

EDO

Parties to the Proceeding

ACRS (10)

ASLB

Shoreham (Bronner, Ferguson, Morris)

Catawba (Kelly, Foster, Purdom)

Perry (Bloch, Bright, Kline)

Comanche Peak (Block, Jordan, McCollom)

Midland (Buchhoefer, Cowan, Harbour)

ASLAB

Shoreham (Rosenthal, Edles, Wilber)

Catawba (Rosenthal, Moore, Wilber)

Perry (Kohl, Buck, Edles)

Midland (Kohl, Buck, Moore)

DISTRIBUTION LIST FOR BOARD NOTIFICATION

Catawba Units 1&2, Docket Nos. 50-413/414
 Comanche Peak Units 1&2, Docket Nos. 50-445/446
 Midland Units 1&2, Docket Nos. 50-329/330
 Perry Units 1&2, Docket Nos. 50-440/441
 Shoreham Unit 1, Docket No. 50-322

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 Atomic Safety and Licensing
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 Document Management Branch

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 Mr. David A. Ward

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Pierce H. Skinner
North Carolina Electric Membership
Corporation
Saluda River Electric Cooperative,
Inc.
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Patrick Bassett

PERRY

Murray R. Edelman
Donald H. Hauser
Resident Inspector
Regional Administrator, Region III

SHOREHAM

M. S. Pollock
Resident Inspector/Shoreham NPS
Energy Research Group, Inc.
James Rivello
Ezra I. Bialik
M. Stanley Livingstone

LATEST REPORTS SUBMITTED BY THE TDI OWNERS GROUP

<u>Report Title</u>	<u>Date Submitted</u>
Supplement to Emergency Diesel Generator Auxiliary Module Control Wiring and Termination Qualification Review (Comanche Peak).	June 13, 1984
The Influence of Thermal Distortion on the Fatigue Performance of AF and AE Piston Skirts.	June 14, 1984
Design Review of Elliott Model 65G Turbocharger Used on Transamerica Delaval DSRV-12-4 and DSRV-20-4 Emergency Diesel Generator Sets.	June 15, 1984
Evaluation of Emergency Diesel Generator Crankshafts at Midland and San Onofre.	June 15, 1984
Supplement to the Emergency Diesel Generator Auxiliary Module Control Wiring and Termination Qualification Review (Catawba).	June 15, 1984
Supplement to the Emergency Diesel Generator Engine Drive Jacket Water Pump Design Review.	June 15, 1984
Design Review of Connecting Rods of TDI Inline DSR-48 Emergency Diesel Generators.	June 18, 1984



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

May 18, 1984

MEMORANDUM FOR: Mayo Carrington
Technical Assistance Program
Management Group, DL
Division of Licensing

FROM: Neal E. Abrams
Patent Counsel
Operations & Administration Division
Office of the Executive Legal Director

SUBJECT: DL TECHNICAL ASSISTANCE PROJECT WITH PACIFIC NORTHWEST
LABORATORY (PNL) - POTENTIAL CONFLICT OF INTEREST

On the basis of the information contained in your Memorandum to me of May 14, 1984, and enclosures, it is our opinion that no conflict of interest situation arises by placing the NRC's contract on the reliability of TDI engines with PNL.

A handwritten signature in cursive script, appearing to read "Neal E. Abrams".

Neal E. Abrams
Patent Counsel
Operations & Administration Division
Office of the Executive Legal Director

Dupe
~~8407240175~~
P.I.R

DISTRIBUTION
 Central File w/o enclosure
 TAPMG RF
 MCarrington ←
 MWilliams
 NRR Project File (PPAs)

MAY 14 1984

MEMORANDUM FOR: Neal E. Abrams, Counsel
 for Labor & Personnel Operations
 and Administration Division, OELD

THRU: Mark Williams, Chief
 Technical Assistance Program Management Group
 Division of Licensing

FROM: Mayo Carrington
 Technical Assistance Program Management Group
 Division of Licensing

SUBJECT: DL TECHNICAL ASSISTANCE PROJECT WITH PACIFIC NORTHWEST
 LABORATORY (PNL) - POTENTIAL CONFLICT OF INTEREST

The Division of Licensing has established a project with PNL to obtain assistance in the technical evaluation of Transamerica Delaval Inc. (TDI) diesel engine reliability and operability. PNL was authorized to begin work on the project February 22, 1984. We later learned, and PNL has now informed us by letter, that they have another project for work involving TDI diesel engines. The issue of a potential conflict of interest, therefore, exists. An ELD opinion on this issue is requested.

A copy of the DL letter and NRC Form 173 authorizing the work at PNL, and a copy of the Statement of Work are enclosed. A copy of the NRC Form 367, DOE Source Selection Justification is enclosed to provide additional background information. The PNL letter notifying us of their other project involving TDI diesel engines, with attached background information, is also enclosed.

From a technical point of view, the two projects are sufficiently disparate that there does not appear to be a potential for conflict of interest. The other PNL project, which is being done for the Maritime Administration for Research and Development, uses TDI diesel engines as test beds for cylinder liners and piston rings developed by a third party. TDI is a subcontractor to PNL to obtain performance of the tests in various TDI engines. This work has no apparent technical pertinence or relationship to the project PNL is conducting for DL. Also, the diesel engine technical expertise for the latter project is being provided by subcontracts with national and international authorities/consultants on diesel engine design, manufacture and operation, rather than by PNL personnel.

Because of the nature of this issue and the fact that work on the DL project is on-going, your response by May 18, would be most helpful.

Dupe
 2407240181
 PDR

DL CUB

OFFICE	TAPMG	TAPMG		Mayo Carrington	
NAME	MCarrington:mn	MWilliams	BERLINGER	Technical Assistance Program	
DATE	5/14/84	5/14/84	5/14/84	Management Group, DL	
	Enclosures:	As stated			



Pacific Northwest Laboratories
P.O. Box 999
Richland, Washington U.S.A. 99352
Telephone (509) 375-2267
Telex 15-2874

May 2, 1984

Mr. Mark Williams, TAPMG
Division of Licensing
Office of Nuclear Regulatory Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Williams:

SUMMARY OF BATTTELLE SUBCONTRACT B-B0195 WITH TRANSAMERICA DELAVAL, INC. (TDI)

Transamerica Delaval, Inc. (TDI) is under subcontract to Battelle to evaluate special silicon carbide (SiC)-impregnated cylinder liners and piston rings prepared by Laystall Engineering Company Ltd. of England for generic diesel service with heavy petroleum fuels. This effort does not involve dependability tests of TDI engines. The activity is supported by the Maritime Administration for Research and Development (MARAD) of the Department of Transportation, via the Department of Energy and its operating contract with Battelle for the Pacific Northwest Laboratory. The PNL staff supervising this effort are not involved in the NRC activity.

Battelle awarded the subject subcontract to TDI on 25 Nov 1981, at a firm fixed price of \$30,705. The completion date was September 30, 1983. In October 1983, the term of the subcontract was extended to December 31, 1984, and the fixed price was increased to \$32,985. Attached is a copy of the Statement of Work.

In our opinion, there is no real or apparent conflict between Battelle's work for NRC and that for MARAD associated with the subcontract described above.

Very truly yours,

Greg L. Turner
Contracting Officer

JBC/ta1
WPO324C

cc: M. Plahuta, DOE/RL
C. Berlinger, NRC

Dupe

~~8407240185~~

PDR

STATEMENT OF WORK

The Contractor shall conduct a test program to evaluate the feasibility of using silicon carbide (SiC) impregnated cylinder liners and piston rings in diesel engines operating on No. 2 diesel and heavy fuel. The work shall be divided into three phases as specified below:

A. Phase One

1. The Contractor shall provide and ship four (4) cylinder liners and four (4) sets of piston rings for the R-46 engine to:

Laystall Engineering Company Limited
10 Dixon Street
Wolverhampton, England WV2 2BU
Attention: Mr. Jack Tanner
Telephone: Area Code 902; Wolverhampton 51789

2. The Contractor shall arrange for the return shipment of the above engine components after the SiC impregnation work is completed by Laystall.
3. The Contractor shall completely blueprint the 4 liners and 4 sets of piston rings.
4. The Contractor shall install one of the liners and one set of the piston rings in a stationary R-46 laboratory engine for testing. The engine shall be run at 25-100 percent load on No. 2 diesel fuel.
5. Boroscope inspections shall be performed by the Contractor to check for compatibility between the liners and rings. The inspections shall be performed at the following time intervals:
 - a. After 1 hour of operation,
 - b. After 40 hours of operation,
 - c. After 120 hours of operation,
 - d. After 720 hours of operation.

If, after 720 hours, the liners appear normal, the Contractor shall commence the testing specified in Phase Two below.

B. Phase Two

1. The Contractor shall install one of the liners and one set of the piston rings in an R-46 engine operating in a municipal power plant in Glenallen, Alaska. The engine shall be run in a normal power plant mode on No. 2 diesel fuel.

- a. After 1 hour of operation,
- b. After 40 hours of operation,
- c. After 100 hours of operation,
- d. After 1,000 hours of operation,
- e. After 2,000 hours of operation.

If, after 2,000 hours, the liners appear normal, the Contractor shall commence Phase Two testing.

C. Phase Two

1. The Contractor shall install the remaining two (2) liners and (2) sets of piston rings in an M/V Gott Engine (RV-16) on-board an ore freighter operating on the Great Lakes. The fuel to be used for this phase of testing shall be heavy oil (1400-4000 Redwood) and will not contain emulsified water.
2. The Contractor shall perform boroscope inspections of the liners at the following time intervals:
 - a. After . hour of operation,
 - b. After 40 hours of operation,
 - c. After 100 hours of operation,
 - d. After 2,500 hours of operation.
 - e. After 5000 hours of operation, the Contractor shall remove the cylinder head and perform a thorough inspection of the liner to determine wear trends. The inspection will include physical measurements of the components.
3. If a normal wear pattern is found, the Contractor shall reinstall the cylinder head. The engine will then be operated for an additional 5000 hours. If unusual or excessive wear patterns are found, Phase Two testing shall be terminated.

D. Reporting Requirements

1. The Contractor shall submit to Battelle quarterly progress reports within two weeks of the completion of each respective quarter of performance under this Contract. The progress report shall briefly summarize the work completed in the quarter, results obtained, and any problems encountered.
2. The Contractor shall submit to Battelle a final report detailing the performance of the liners and rings within one month of the conclusion of the first 5000 hours of operation in Phase Two. This report shall also detail the performance of the liners during Phase One testing.

3. If a second 5000 hour testing operation is performed in Phase Two, the Contractor shall submit to Battelle a supplemental final report within one month after completion of the testing. This report shall discuss the results obtained by the Contractor in the second inspection of the marine engine.
4. If testing is terminated prior to the completion of Phase Three, the final report shall detail the performance of the liners up to the time of such termination and shall be submitted within one month of testing termination.
5. The Contractor shall submit one copy each of the above reports to:

Cheryl L. Cejka
Subcontract Administrator
Battelle
P. O. Box 999
Richland, WA 99352

Darrell D. Hays
Senior Development Engineer
Battelle
P. O. Box 999
Richland, WA 99352