

STONE & WEBSTER ENGINEERING CORPORATION ENGINEERING & DESIGN COORDINATION REPORT

PROJECT / CLIENT:

SHOREHAM NUCLEAR POWER STATION-UNIT 1
LONG ISLAND LIGHTING COMPANY

NO.

E-46109C

JOB NO.

11600 03

REFERENCES:

PROBLEM DESCRIPTION:

Delaval has identified "holidays" or lack of shot peen coverage in the fillet areas of the new diesel crankshafts, purchased in accordance with E&DCR F-46109C. These holidays have been dispositioned as functionally acceptable by TDI, however, recent analysis performed by Failure Analysis Associates indicate that 100% peening coverage is beneficial.

Please resolve.

RECEIVED
DOCUMENT CONTROL

SEP 14 1983

CONSTRUCTION OFFICE
SHOREHAM PROJECTTELECOPY DATES
(REQUESTING PART)Sent:
Rev'd:

Requested By:

J.C. Kammerer

Dept. or Div.

SEO

Tele. Ext.

404

Date

9/16/83

Needed By

PROBLEM SOLUTION:

Since the crankshafts are delivered to the site, Metal Improvements Co., a local firm with extensive experience in shot peening of crankshafts, will perform the rework. The fillet areas shall be re-peened in accordance with the requirements of MIL-S-13165B to assure 100% coverage of the fillet areas. Peening shall be performed by Metal Improvements Co. on site and the crankshaft inspected by OQA for 100% peening at the fillet areas. Refer to attached procedure.

TDI QC inspection of journal bearing masking is required prior to commencing shot peening.

TDI approval for shot peening procedure has been obtained,

AFFECTS WORK UNDER SPECIFICATION SH-89 written approval to be filed with

TELECOPY DATES
(RESPONDING PART)IMPLEMENTATION VERIFICATION ☐ IS REQUIRED ☒ IS NOT

VERIFIED BY R/R at close out.

Sent:
Rev'd:

Furnished By:

J.C. Kammerer

Date

9/16/83

Responsible Lead Engr

J.C. Kammerer

Date

9/16/83

☐ INFORMATION ONLY☐ DRAWING CHANGE☒ Manual CHANGE☐ PROCEDURE CHANGE☐ ENG. SERV. SCOPE OF WORK CHANGEChange will ☐ be incorporated in the ☐ following documents:

R431R H2 II

Project Design Engr.

NR

Date

—

ESAR CHANGE ☐ Yes ☒ No

Equipment Specialist

NR

Date

—

CLIENT APPROVAL

☒ Required ☐ Not Req'd

Qual. Sys. Div. or Eng. Assur. Div.

NR

Date

—

Obtained Date: 9/16/83

Reference: Taken w/ CVK Seminar

Materials Engr.

NR

Date

9-16-83

CLIENT DISTRIBUTION-CLIENT HEADQTR

☒ Nuclear Safety Related (QA Cat I)☐ Not Nuclear Safety Related (☐ QA Cat II ☐ QA Cat III)

Project Engineer Approval & Date

J.C. Kammerer 9/16/83

S. P. Holden

HEADQUARTERS

Proj. Engr. ☐ Chief Engr. ☐
 Proj. Des. Engr. ☐ Chief Des. Engr. ☐
 Resp. Engr. ☐ Supl. Const. Serv. ☐
 Equip. Spec. ☐ Ch. Engr.-EA Div. ☐
 Mat'ls Engr. ☐ R. Nayak ☐
 QA-Qual. Sys. D. ☐ L. Fucini ☐
 QA-POC Div. ☐ J. P. G. ☐
 QA-FQC Div. ☐ T. Brown ☐

FIELD DISTRIBUTION

Originator ☒ G. Rogers/LPO
 Client QA Mgr. ☐ M. Hamelbyan
 Client Const. Insp. ☐ C. K. Leach
 SEW FQC ☐ P. M. M. ☐
 SGW Res. Engr. ☐ D. V. ☐
 Fld. Des. Engr. ☐ R. Cardella
 Head-Fld. Ext. O. ☐ F. E. ☐
 T. Brown ☐

CONST. SUPERVISORS

Structural ☐
 Mechanical ☐
 Electrical ☐
 Piping ☐
 Welding ☐
 Instrument ☐
 Planning ☐
 R. M. C. ☐
 C. L. S. ☐

Transamerica
Delaval



Transamerica Delaval Inc.
Engine and Compressor Division
185th Avenue
P.O. Box 2161
Oakland, California 94621
(415) 577-7400

ESDCR F4610

Pg 2 of 3

Date: September 12, 1983

To: John Kammeyer

From: Ken Kropf

Subject: Diesel Generators TDI S/N 74010-12
Holidays in Shot-Peening on Crankshaft
#693, PC# 8162, HT# 821487

There are two areas on top of # 1 Pin directly adjacent to the crank pin and at the outer edge of the crank radius that have Holidays in the Shot-Peening. These holidays are in a relatively low stressed area of the crankshaft. I have looked at these areas and disposition them functionally acceptable.

The TDI procedure for shot peening the LILCO crankshaft is also attached.

Ken Kropf

Ken Kropf
Supervisor, Quality Control

cc: V. Dilworth
R. Giordanelli
R. Boyer
J. Gee
D. Wulf

C-51-2

SPECIAL PROCEDURE FOR LILCO R-8 CRANKSHAFT

Part Number 03-310-05-AK

Quality Control No. 693

Heat Number 021437

Pc. No. 8162

1. Prior to shot peen, insure that all non peened surfaces (main and rod journals) are protected.
2. Set air pressure at 60 to 80 P.S.I.
3. Use .050 shot to peen fillets on rod journals and main bearing journals.
4. Use Almon strip and gauge to verify maximum intensity. (Ref. SAE J442-79)
 - A. Secure Almon "A" strips in blocks.
 - B. Make 1 pass on one strip.
 - C. Make 2 passes on the next strip.
 - D. Make 3 passes on the next strip.
 - E. Measure intensity with Almon gauge.
5. Shot blast fillets at maximum intensity level.
6. Inspect for full and complete intensity and coverage.



				Shot Peen Procedure for Lilco R-8 Crankshaft, Part No. 03-310-05-AK	PAGE 1 OF 1
				Transmenca Delaval	SPECIFICATION NO 1008-
8/25/83				Transmenca Delaval Inc. Engine and Compressor Division 2000 Avenue	

C-51-3

LILCONUCL SHRM

SEPTEMBER 16, 1983

ATTN: MR. JOHN KAMMEYER

TRANSAMERICA DELAVAL (TDI) REITERATES THAT THE 12 X 13 INCH CRANKSHAFTS SUPPLIED TO LILCO DO NOT REQUIRE ANY SHOT PEENING. LILCO DIRECTED TDI TO SHOT PEEN THE FILLETS OF THOSE THREE SHAFTS AND TDI HAS COMPLIED BY SO DOING IN THE MANNER THAT HAS BEEN OUR STANDARD PRACTICE ON OTHER SIMILAR CRANKSHAFTS. BOTH TDI AND S/ECO (LILCO'S REPRESENTATIVE) INSPECTED AND ACCEPTED THE SHOT PEENING PRIOR TO SHIPMENT OF THE TWO SHAFTS NOW ON-SITE.

LILCO HAS NOW ADVISED TDI THAT THIS SAME WORK HAS BEEN REINSPECTED AND IS JUDGED BY LILCO'S CONSULTANTS TO REQUIRE REWORK IN THE FORM OF FURTHER SHOT PEENING. WE DISAGREE BUT ARE WILLING TO OBSERVE SUCH REWORK AND VERIFY THAT BEARING SURFACES ARE NOT DAMAGED IN THE PROCESS.

WE ARE COMPLETELY WITHOUT PRIOR EXPERIENCE WITH RE-SHOT PEENED CRANKSHAFTS. FROM A TECHNICAL VIEWPOINT, WE AGREE THAT RE-SHOT PEENING THE CRANKSHAFT FILLETS MAY ENHANCE THE SURFACE IMPROVEMENT AND SEE NO REASON FOR LILCO NOT TO FOLLOW THE ADVICE OF ITS CONSULTANTS.

WE HAVE REVIEWED THE PROPOSED PROCEDURE AND FIND IT TO BE ACCEPTABLE FOR THE SHOT PEENING OF LARGE ENGINE CRANKSHAFTS.

REGARDS
GEOFF KING
MANAGER, PRODUCT ENGINEERING
TRANSAMERICA DELAVAL INC.
LILCONUCL SHRM

ENTERPRISE OAK

ATTACHMENT TO
E & DCR NO F-46109 G
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C-51-4