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 AUTH. NAME      AUTHOR AFFILIATION  
 KEISER, H.W.      Pennsylvania Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION  
 BUTLER, W.R.      Project Directorate I-2

SUBJECT: Forwards schedules that provide details of tasks required to complete each activity..

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**Pennsylvania Power & Light Company**

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FEB 0 2 1990

Harold W. Keiser  
Senior Vice President-Nuclear  
215/770-4194

Director of Nuclear Reactor Regulation  
Attention: Dr. W. R. Butler, Project Director  
Project Directorate I-2  
Division of Reactor Projects  
U.S. Nuclear Regulatory Commission  
Washington DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION  
DIESEL GENERATORS  
SCHEDULE OF ACTIVITIES  
PLA-3341 FILE R41-2

DOCKET 50-387  
50-388

Dear Dr. Butler:

This correspondence is a follow-up to a January 19, 1990 phone call between our respective staffs wherein PP&L committed to provide a schedule for completing activities related to the diesel generators, in particular, the 12 activities delineated in PLA-3221, which transmitted our diesel generator root cause analysis.

The attached schedules provide details of the tasks required to complete each activity. Attachment 1 to this PLA is a summary description of the major evolutions which will occur between now and October of 1990. Attachment 2 is an Executive Summary Schedule, and Attachment 3 contains the detailed schedules.

Two noteworthy points regarding the schedules. First, we plan to have spare parts on site in a timely manner to support each diesel inspection. This is based on availability and we are working aggressively with the supplier to ensure parts delivery. Should the availability of parts change we will provide you with an updated schedule. Secondly, based on the upcoming diesel inspections, additional corrective actions may be prudent on diesel generator E. We will schedule those activities on a case by case basis.

If you have any questions please contact D. J. Walters  
(215) 770-6536.

Very truly yours,

H. W. Keiser

Attachments

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To: Reg Files*

9002120325 900202  
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cc: NRC Document Control Desk (original)  
NRC Region I  
Mr. G. S. Barber, NRC Sr. Resident Inspector  
Mr. M. C. Thadani, NRC Project Manager

ATTACHMENT 1 TO PLA-3341

ACTIVITY

SCHEDULED COMPLETION

Inspections and Refurbishments (A-D)

Diesel Gen. A	03/30/90
Diesel Gen. C	05/05/90
Diesel Gen. D	06/15/90
Diesel Gen. B	08/14/90

- o Replace piston rings
- o Inspect cylinder liners for tinning and correct as required
- o Inspect cylinder liners for porosity and correct as required
- o Blue check all piston to pin assemblies - blue checking will be performed on the existing piston/piston pin assembly to determine percent bearing contact
- o Change lube oil
- o Change lube oil sample point - the oil sample point on each engine will be relocated at a point prior to the filter. This will also allow sampling while the engine is running.

Evaluate Lower Oil Ring and End Cap Removal February 15, 1990

- o We will evaluate the impact of removing the lower oil rings and end caps. If the consequences of this removal are acceptable a modification package will be issued.

Technical Specification Revisions

March 26, 1990

- o We have drafted proposed technical specification changes which we believe will result in increasing diesel generator reliability. We are targeting March 26 as our submittal date.

Reliability Monitoring Program

October 1, 1990

- o We have implemented a program to trend engine parameters i.e. pressure and temperature. In addition we will be performing lube oil analysis on samples taken from the new sample location commencing after each diesel generator inspection/refurbishment outage. We are developing a trend program utilizing data from our engine analyzer.

This includes information such as firing pressures, pressure angles and horsepower. These engine analyzer runs will be performed prior to and following each 18 month surveillance.

Distressed Piston Pin Examination

April 1, 1990

- o As part of our continuing effort to determine root cause we are performing a metallurgical analysis of a distressed piston pin.

Review of Other Utility Maintenance Practices

June 1, 1990

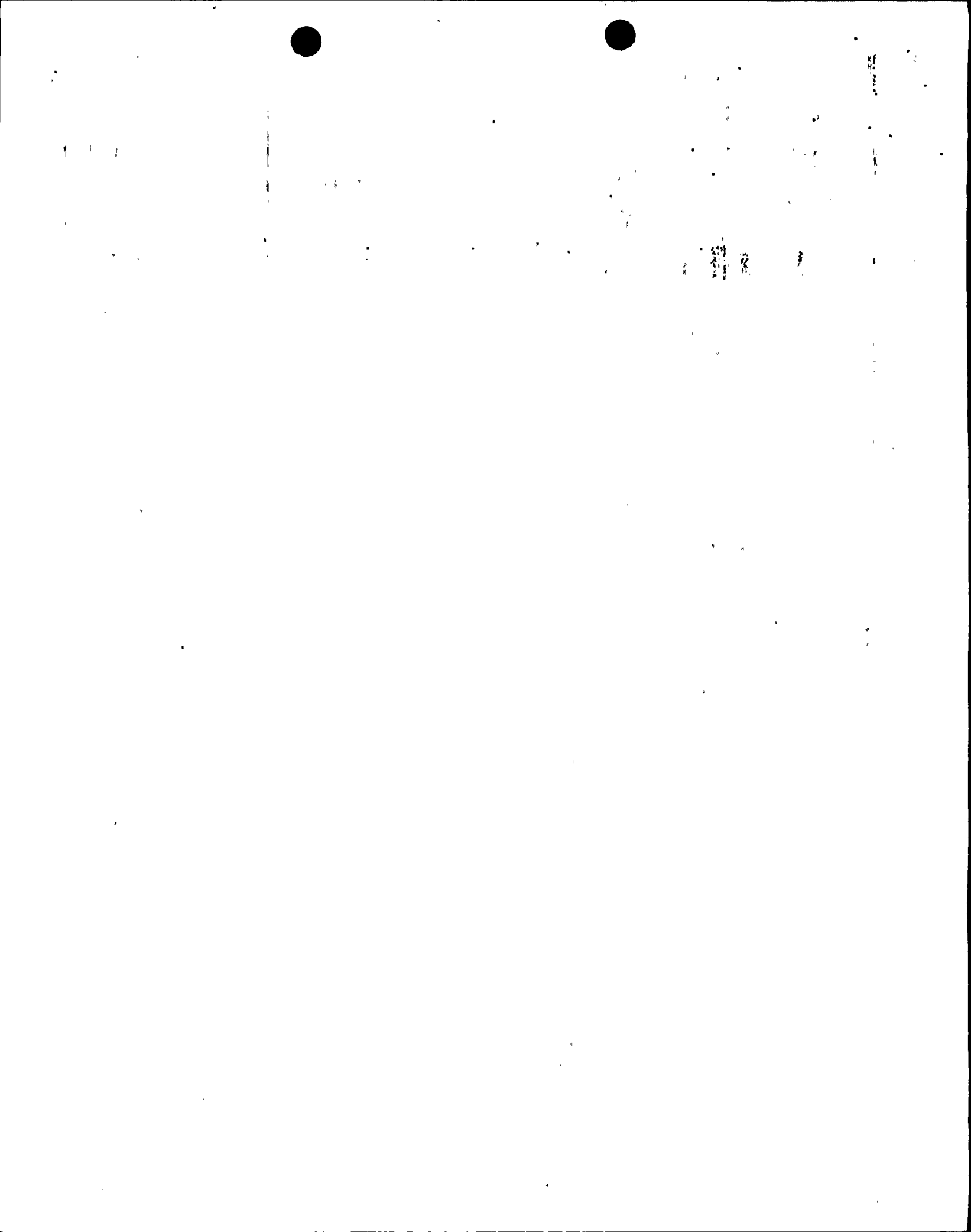
- o We will review other utilities diesel generator maintenance practices. Recommendations will be developed as a result of these visits and a schedule for implementation of accepted recommendations will be formulated.

Coopers Owners Group

On Going

This committee is in its early stages of formation and we are playing an integral role. This will be an ongoing activity to which we are committed.

ATTACHMENT 2 TO PLA 3341



1DEC89

D-77 15FEB90  
 450 EVAL LOWER OIL RING & PISTON PIN ENDCAP REMOVAL  
 1DEC89 D-304 30SEP90

470 IMPLEMENT DIESEL RELIABILITY PROGRAM

2JAN90 D-84 26MAR90  
 455 SUBMIT TECH SPEC CHANGE REQUEST

7JAN90 D-85 1APR90  
 460 EXAMINATION OF PISTON PIN

22JAN90 D-131 1JUN90  
 465 REVIEW OTHER UTIL MAINT & OPERATION PRACTICES

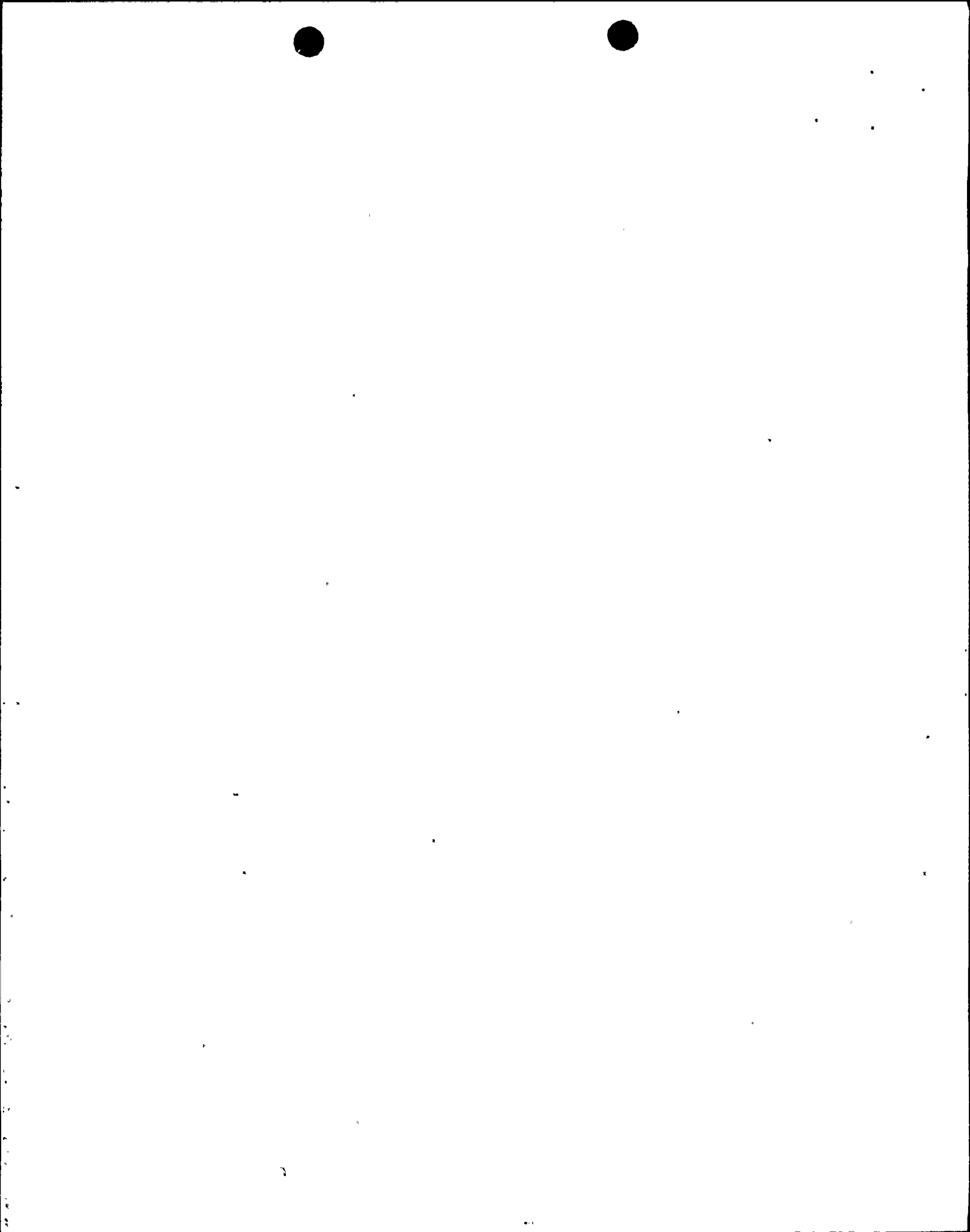
26FEB90 D-32 29MAR90  
 475 'A' D/G INSPECTION/REFURBISHMENT

6APR90 D-32 7MAY90  
 480 'C' D/G INSPECTION/REFURBISHMENT

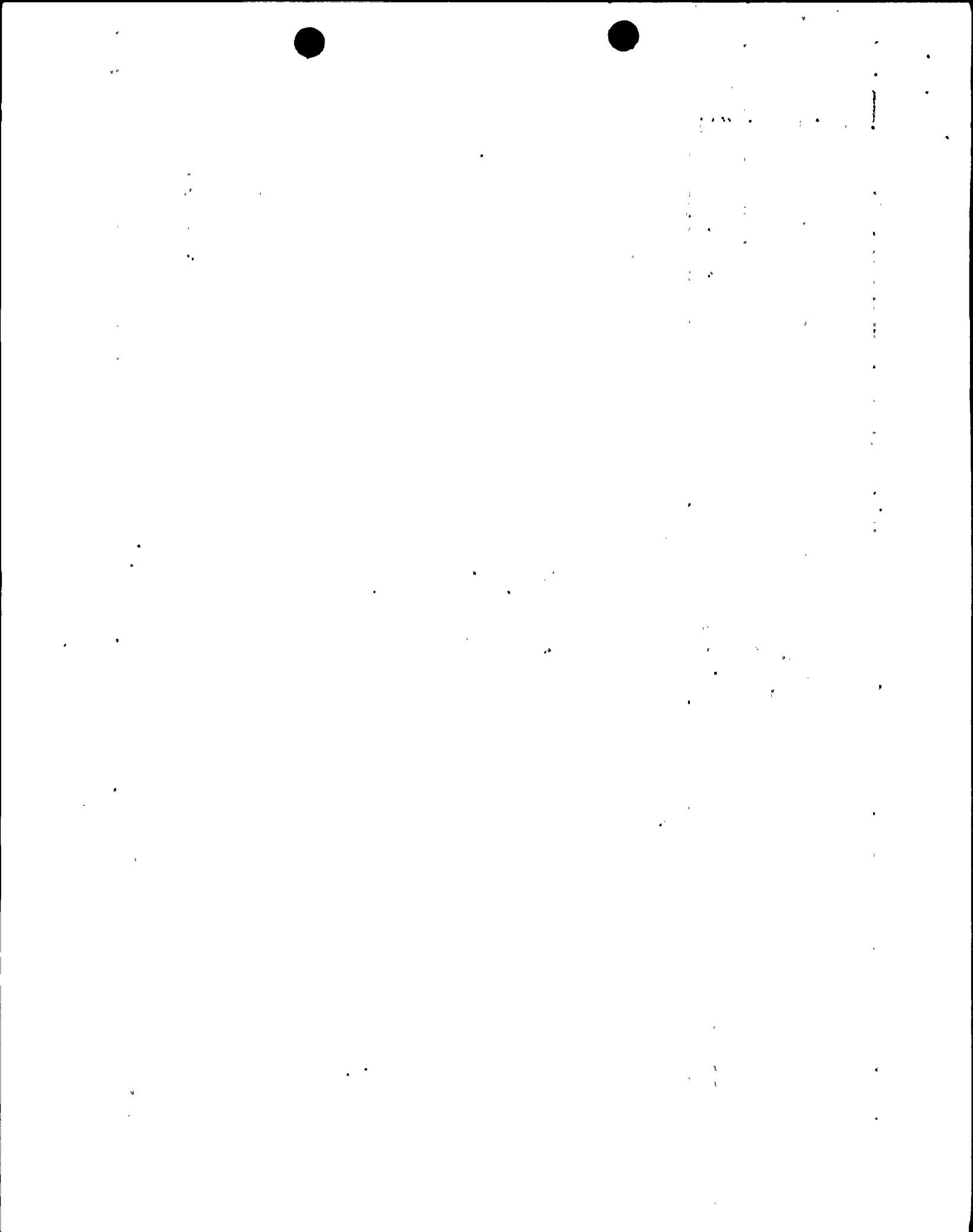
15MAY90 D-32 15JUN90  
 485 'D' D/G INSPECTION/REFURBISHMENT

23JUN90 D-52 13AUG90  
 490 'B' D/G INSPECTION/REFURBISHMENT





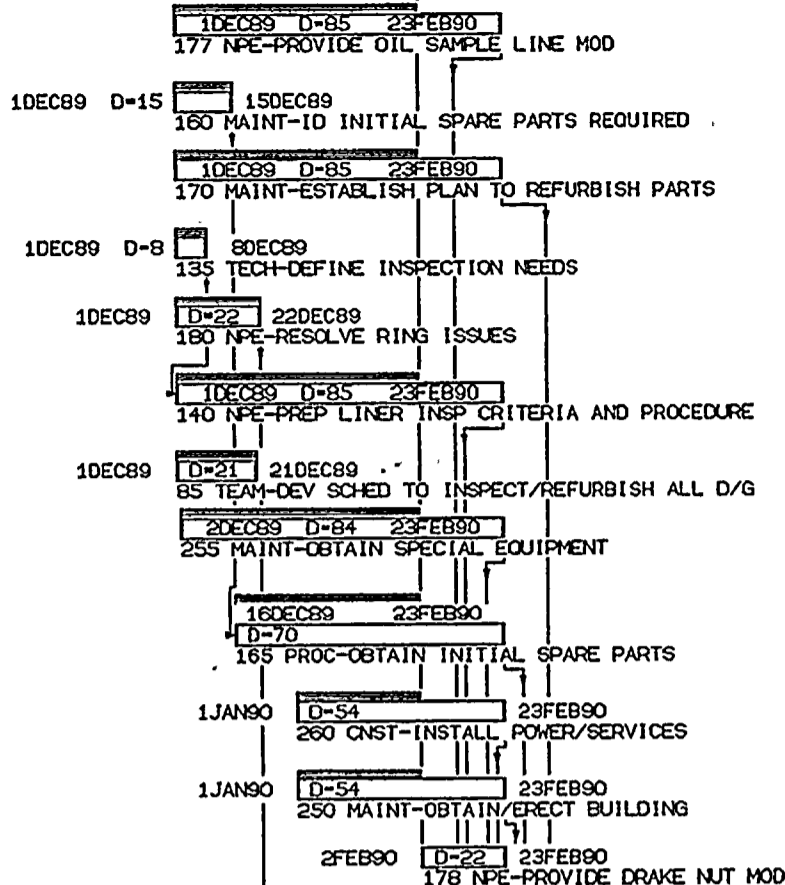
ATTACHMENT 3 TO PLA 3341



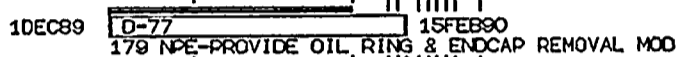
DIESEL GENERATOR - DETAILED SCHEDULE

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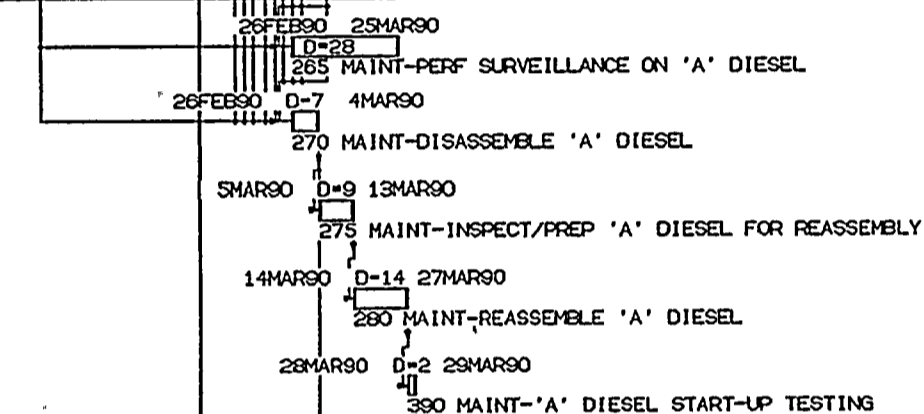
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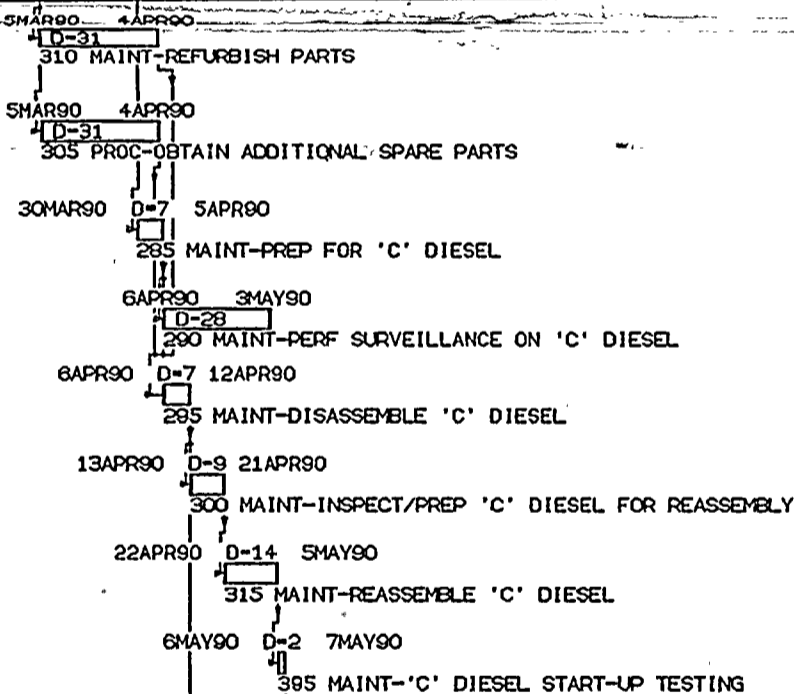
EVAL OIL RING/ENDCAP REMOVAL



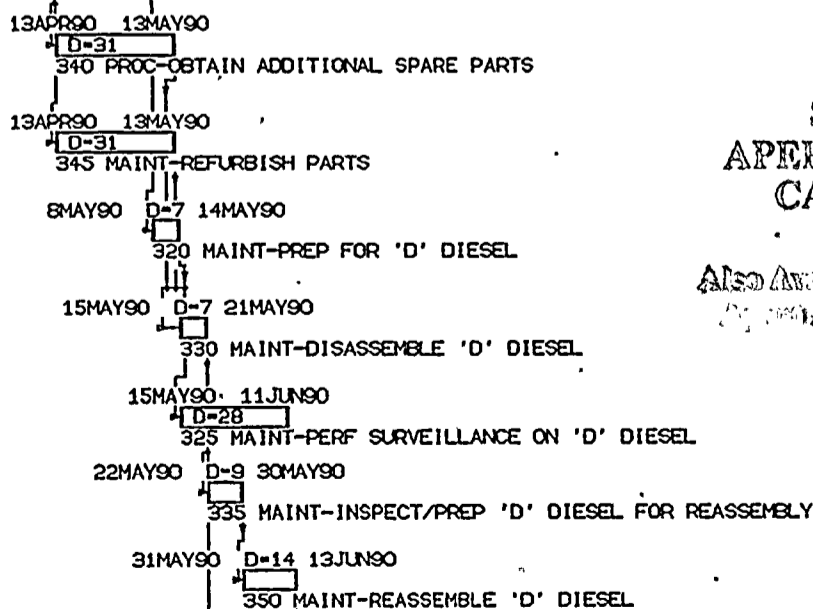
'A' D/G INSPECTION/REFURBISHMENT



'C' D/G INSPECTION/REFURBISHMENT



'D' D/G INSPECTION/REFURBISHMENT



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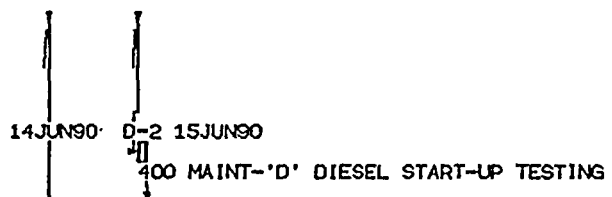
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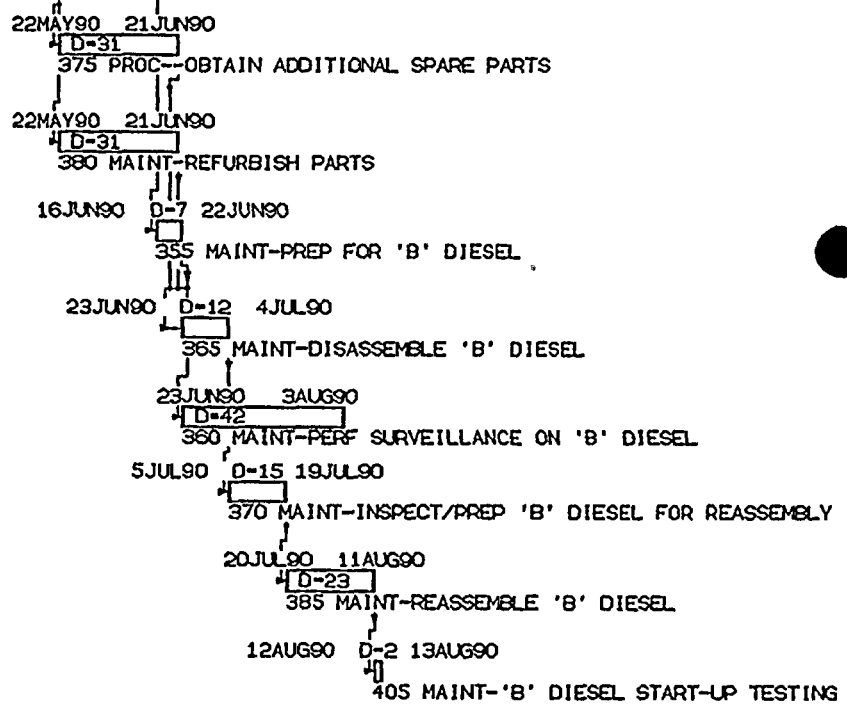
DIESEL GENERATOR - DETAILED SCHEDULE

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'D' D/G  
INSPECTION/R  
REFURBISHMENT



'B' D/G  
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REFURBISHMENT



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DIESEL GENERATOR - DETAILED SCHEDULE

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EXAMINATION OF PISTON PIN

7 JAN 90 D=85 1 APR 90  
445 NPE-PERF PISTON PIN EXAMINATION

1 APR 90  
495 NPE-ISSUE PISTON PIN REPORT

MISCELLANEOUS

- 10 DEC 89 D=21 21 DEC 89  
80 NUC FUELS-D/G FAILURE ASSESSMENT
- 10 DEC 89 D=21 21 DEC 89  
115 NOA-REVIEW NOA AUDITS OF COOPER
- 10 DEC 89 D=21 21 DEC 89  
40 COOPER-PISTON 1R FROM UNIT B INSP&NON-CONFORMCE
- 10 DEC 89 D=21 21 DEC 89  
125 NOA-REVIEW SHOP INSPECTION REPORTS
- 10 DEC 89 D=21 21 DEC 89  
10 NPE-WRITE MECHANICAL REPORT
- 10 DEC 89 D=21 21 DEC 89  
25 NPE-WRITE METALLURGICAL REPORT
- 10 DEC 89 D=21 21 DEC 89  
60 COOPER-LINER 1R FROM UNIT B INSP&NON-CONFORMCE R
- 10 DEC 89 D=21 21 DEC 89  
120 NOA-REVIEW BECHTEL AUDITS OF COOPER
- 19 DEC 89  
45 COOPER-PISTON RINGS RECOMMENDATIONS
- 22 DEC 89 D=8 29 DEC 89  
15 TEAM-REVIEW MECHANICAL REPORT
- 22 DEC 89 D=8 29 DEC 89  
30 TEAM-REVIEW METALLURGICAL REPORT
- 29 DEC 89  
20 TEAM-ISSUE DRAFT TECH REPORTS
- 4 JAN 90  
50 COOPER-PISTON, STEADY STATE THERMAL GROWTH ANALYS
- 8 JAN 90  
65 COOPER-ASSESSMENT OF FIELD PROGRAM
- 15 FEB 90  
70 COOPER-ISSUE FINAL REPORT

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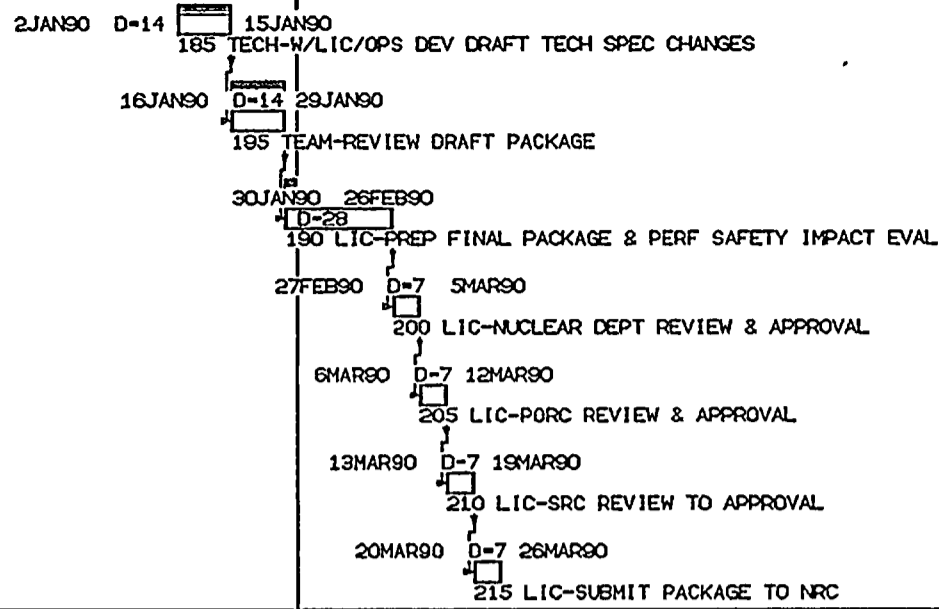
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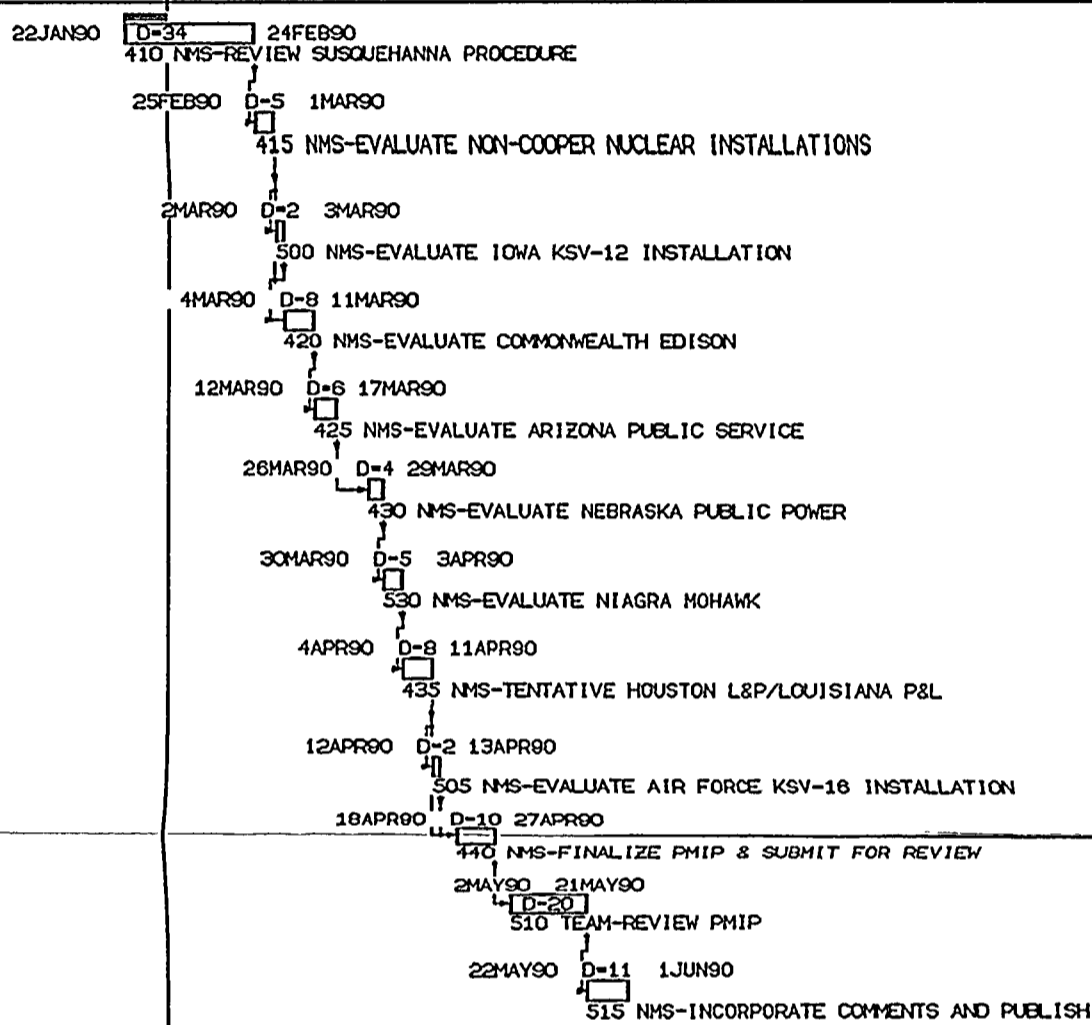
DIESEL GENERATOR - DETAILED SCHEDULE

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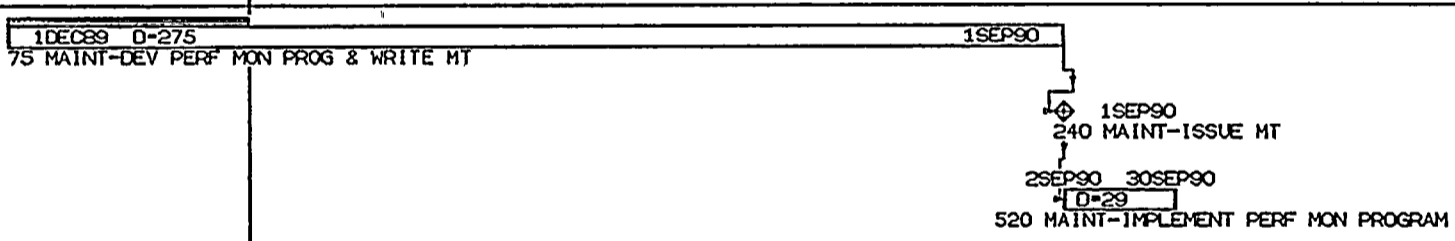
REVISE TECH SPECS



REVIEW OTHER UTIL MAINT & OPER PRACT



IMPLEMENT DIESEL RELIABILITY PROGRAM



APPENDIX

Also available On Agency's CD-ROM

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DIESEL GENERATOR - OVERVIEW

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1DEC89 [D=77] 15FEB90  
 450 EVAL LOWER OIL RING & PISTON PIN ENDCAP REMOVAL  
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 485 'D' D/G INSPECTION/REFURBISHMENT

23JUN90 [D=52] 13AUG90  
 490 'B' D/G INSPECTION/REFURBISHMENT

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