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ROBINSON,W.R. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Suppls proposed LAR submitted by 930515,940217 & 25 ltrs to remove license conditions for EDGs specified by condition 2.C.(8) by incorporating by ref,findings & conclusions of TDIOG Generic TR TDI-EDG-001-A.Proposed OL pages encl.

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AA

CP&L

Carolina Power & Light Company
PO Box 165
New Hill NC 27562

NOV 2 3 1994

William R. Robinson
Vice President
Harris Nuclear Plant

File Number: HO-941098

SERIAL: HNP-94-088

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
EMERGENCY DIESEL GENERATOR MAINTENANCE AND SURVEILLANCE

Gentlemen:

By letters dated May 15, 1993, February 17, 1994, and February 25, 1994, Carolina Power & Light Company (CP&L) submitted a proposed license amendment that would remove license conditions for the Emergency Diesel Generators (EDGs) specified by Condition 2.C.(8) and defined in Attachment 1 to Operating License NPF-63. Since a generic evaluation could not be completed in time to support CP&L's scheduled 1994 refueling outage, on March 3, 1994 the NRC issued Amendment No. 45 to the Facility Operating License, modifying the SHNPP Operating License to provide for a one-time exemption from compliance with License Condition 2.C.(8).

On March 17, 1994, the NRC issued a Safety Evaluation to the TDI Diesel Generators Owners' Group Clearinghouse which concluded that there is adequate justification for removing the present component-based licensing conditions from operating licenses. The purpose of this letter is to supplement our license amendment request by incorporating by reference the findings and conclusions of the Transamerica Delaval, Inc. Emergency Diesel Generators Owners Group Generic Topical Report TDI-EDG-001-A, Basis for Modification to Inspection Requirements for Transamerica Delaval, Inc. Emergency Diesel Generators.

The conclusions contained in our 10 CFR 50.92 evaluation and the *Federal Register* (58 Fed. Reg. 32378) dated June 9, 1994 remain valid and are unaffected by this supplement.

Attached are the proposed Facility Operating License pages.

In order to allow time for procedure revisions and planning for Refueling Outage No. 6, currently scheduled to being in September 1995, CP&L requests that the proposed amendment be issued by April 1, 1995 with a period of 90 days allowed for implementation.

A001

Questions regarding this matter may be referred to Mr. R. W. Prunty at (919) 362-2030.

Sincerely,

W R Robinson

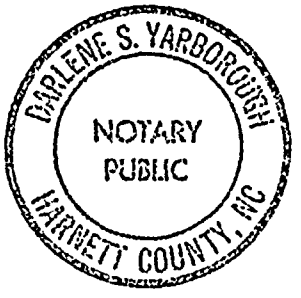
LSR/lsr

Enclosures:
Operating License Pages

W. R. Robinson, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Darlene S. Yarborough
Notary (Seal)

My commission expires: 2-5-95



c: Mr. Dayne H. Brown
Mr. S. D. Ebneter
Mr. S. A. Elrod
Mr. N. B. Le

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
EMERGENCY DIESEL GENERATOR MAINTENANCE AND SURVEILLANCE

OPERATING LICENSE PAGES

(6) Detailed Control Room Design Review (Item I.D.1, Section 18)

Carolina Power & Light shall submit the final results of the control room surveys prior to startup following the first refueling outage.

(7) Safety Parameter Display System (Section 18.2.1)

Carolina Power & Light Company shall submit to the NRC for review prior to startup following the first refueling:

(a) The final Validation Test Report,

(b) The resolution of additional human engineering deficiencies identified on the safety parameter display system.

(8) Transamerica Delaval, Inc. (TDI) Diesel Generators

DELETED

~~Carolina Power & Light Company shall implement the TDI diesel requirements as specified in Attachment 1. Attachment 1 is hereby incorporated into this license. However, Carolina Power & Light Company is granted a one-time exemption from implementing these requirements during Refueling Outage No. 5 and the ensuing Operating Cycle No. 6.~~

(9) Formal Federal Emergency Management Agency Finding

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

(10) Fresh Fuel Storage

The following criteria apply to the storage and handling of new fuel assemblies in the Fuel Handling Building:

(a) The minimum edge-to-edge distance between a new fuel assembly outside its shipping container or storage rack and all other new fuel assemblies shall be at least 12 inches.

(b) New fuel assemblies shall be stored in such a manner that water would drain freely from the assemblies in the event of flooding and subsequent draining of the fuel storage area.

Revised by NRC letter
dated March 3, 1994

ATTACHMENT 1 TO LICENSE NPF-63

TDI DIESEL ENGINE REQUIREMENTS

DELETED

1. Changes to the maintenance and surveillance programs for the TDI diesel engines, as identified in Shearon Harris SSER No. 4, shall be subject to the provisions of 10 CFR 50.59.

   The frequency of the major engine overhauls referred to in the license conditions below shall be consistent with Section IV.1. "Overhaul Frequency" in Revision 2 of Appendix II of the Design Review/Quality Revalidation report which was transmitted by letter dated May 1, 1986, from J. George, Owners Group, to H. Denton, NRC.

2. Connecting rod assemblies shall be subjected to the following inspections at each major engine overhaul:

   a. The surfaces of the rack teeth shall be inspected for signs of fretting. If fretting has occurred, it shall be subject to an engineering evaluation for appropriate corrective action.

   b. All connecting-rod bolts shall be lubricated in accordance with the engine manufacturer's instructions and torqued to the specifications of the manufacturer. The lengths of the two pairs of bolts above the crankpin shall be measured ultrasonically pre- and post-tensioning.

   c. The lengths of the two pairs of bolts above the crankpin shall be measured ultrasonically prior to detensioning and disassembly of the bolts. If bolt tension is less than 93% of the value at installation, the cause shall be determined, appropriate corrective action shall be taken, and the interval between checks of bolt tension shall be re-evaluated.

   d. All connecting-rod bolts shall be visually inspected for thread damage (e.g., galling), and the two pairs of connecting rod bolts above the crankpin shall be inspected by magnetic particle testing (MT) to verify the continued absence of cracking. All washers used with the bolts shall be examined visually for signs of galling or cracking, and replaced if damaged.

   e. Visual inspection shall be performed of all external surfaces of the link rod box to verify the absence of any signs of service induced distress.

   f. All of the bolt holes in the link rod box shall be inspected for thread damage (e.g., galling) or other signs of abnormalities. In addition, the bolt holes subject to the highest stresses (i.e.,

the pair immediately above the crankpin shall be examined with an appropriate nondestructive method to verify the continued absence of cracking. Any indications shall be recorded for engineering evaluation and appropriate corrective action.

3. The cylinder blocks shall be subjected to the following inspections at the interval specified in the inspections:

   a. Cylinder blocks shall be inspected for "ligament" cracks, "stud-to-stud" cracks and "stud-to-end" cracks as defined in a report* by Failure Analysis Associates, Inc. (FaAA) entitled, "Design Review of TDI R-4 and RV-4 Series Emergency Diesel Generator Cylinder Blocks" (FaAA report no. FaAA-84-9-11.1), dated December 1984. (Note that the FaAA report specifies additional inspections to be performed for blocks with "known" or "assumed" ligament cracks). The inspection intervals (i.e., frequency) shall not exceed the intervals calculated using the cumulative damage index model in the subject FaAA report. In addition, inspection method shall be consistent with or equivalent to those identified in the subject FaAA report.

   b. In addition to inspections specified in the aforementioned FaAA report, blocks with "known" or "assumed ligament cracks" (as defined in the FaAA report) shall be inspected at each refueling outage to determine whether or not cracks have initiated on the top surface exposed by the removal of two or more cylinder heads. This process shall be repeated over several refueling outages until the entire block top has been inspected. Liquid-penetrant testing or a similarly sensitive nondestructive testing technique shall be used to detect cracking, and eddy current shall be used as appropriate to determine the depth of any cracks discovered.

   c. If inspection reveals cracks in the cylinder blocks between stud holes of adjacent cylinders ("stud-to-stud" cracks) or "stud-to-end" cracks, this condition shall be reported promptly to the NRC staff and the affected engine shall be considered inoperable. The engine shall not be restored to "operable" status until the proposed disposition and/or corrective actions have been approved by the NRC staff.

4. The following air roll test shall be performed as specified below, except when the plant is already in an Action Statement of Technical Specification 3/4.8.1, "Electric Power Systems, A.C. Sources".

*This report was transmitted to H. Denton, NRC, from C. L. Ray, Jr., TDI Owners Group, by letter dated December 11, 1984.

The engines shall be rolled over with the airstart system and with the cylinder stopcocks open prior to each planned start, unless that start occurs within 4 hours of a shutdown. The engines shall also be rolled over with the airstart system and with the cylinder stopcocks open after 4 hours, but no more than 8 hours after engine shutdown and then rolled over once again approximately 24 hours after each shutdown. (In the event an engine is removed from service for any reason other than the rolling over procedure prior to expiration of the 8-hour or 24-hour periods noted above, that engine need not be rolled over while it is out of service. The licensees shall air roll the engine over with the stopcocks open at the time it is returned to service). The origin of any water detected in the cylinder must be determined and any cylinder head which leaks due to a crack shall be replaced. The above air roll test may be discontinued following the first refueling outage subject to the following conditions:

a. All cylinder heads are Group III heads (i.e., cast after September 1980).

b. Quality revalidation inspections, as identified in the Design Review/Quality Revalidation report, have been completed for all cylinder heads.

c. Group III heads continue to demonstrate leak-free performance. This shall be confirmed with TDI prior to deleting air roll tests.

5. Periodic inspections of the turbochargers shall include the following:

a. The turbocharger thrust bearings shall be visually inspected for excessive wear after 40 non-prelubed starts since the previous visual inspection.

b. Turbocharger rotor axial clearance shall be measured at each refueling outage to verify compliance with TDI/Elliott specifications. In addition, thrust bearing measurements shall be compared with measurements taken previously to determine a need for further inspection or corrective action.

c. Spectrographic and ferrographic engine oil analysis shall be performed quarterly to provide early evidence of bearing degradation. Particular attention shall be paid to copper level and particulate size which could signify thrust bearing degradation.

6. Prior to restart following the first refueling:

a. The engine base shall be inspected for degenerate microstructure (Widmanstaetten graphite) and the results submitted to the NRC for evaluation.

b. The exhaust manifold capscrew torques (without lubricant) shall be checked/corrected for both engines.

c. A visual inspection, liquid penetrant test, and dimensional check of diesel generator 1A governor shaft shall be performed.

d. A liquid penetrant test of diesel generator 1A governor drive gear and shaft shall be performed to check for fatigue checks.

e. Install an acceptable jacket water standpipe level transmitter on both diesel generators.

f. A Dresser coupling shall be added on to the engine driven lube oil pump suction line to mitigate the thermal expansion loading and stresses on the pump inlet nozzle.

g. Replace the 2½ inch Dresser coupling located between the turbocharger and lube oil sump tank for both drain lines with a 2½ inch 150 lb. S.O. flange with A307 bolts.

h. The four starting air manifold (large bore) support modifications specified in the DR/OR shall be implemented.

i. The jacket water pipe and fitting (large bore) support members shall be reinforced as specified in the DR/OR.

j. The two-directional restraints on each fuel oil drip header (2 per engine) shall be modified to a three-directional restraint in order to provide axial restraint of the header and to minimize the effects on all associated tubing.

k. An anchor (six-way restraint) shall be added on the fuel-oil-to-day-tank return piping (two lines per engine) in order to reduce the unsupported span length and to minimize the effects of the off engine piping.

l. On the generator controls:

1) Coat one side of the adjustment screw for each of the five adjustment potentiometers on the printed circuit board of the voltage regulator with glyptol lacquer. If adjustments to the potentiometer are needed, procedures shall specify that the glyptol lacquer shall be removed and then reapplied after the adjustments have been performed.

2) The lug arrangement for the heatsink connections and the power circuit reactor shall be modified so that there are no more than two lugs on each bolt.

3) For the bridge rectifier assembly, the diodes shall be mounted on the heatsinks with drilled holes, nuts, and lockwashers and tightened to the proper torque.

RETYPED OPERATING LICENSE PAGES

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