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October 8, 1981

Mr. A. Schwencer, Chief
Licensing Branch #2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Subject: Proposed Changes to the LaSalle Technical Specification

Dear Mr. Schwencer:

The purpose of this letter is to provide information requested by Mr. A. Bournia in a conference call on October 8, 1981, with Mr. J. Knox, Mr. R Giardina, and Commonwealth Edison representatives.

Figures 1 and 2 illustrate a schematic diagram of the proposed modification to the LaSalle diesel generator lubrication system. Completion of this modification should address the concerns in SER Section 9.6.3.4.

The proposed Technical Specification Change to allow operation with the 125v D.C. battery cross-tied to Unit 2 until Unit 2 is placed in service is shown in Figure 3.

We understand Mr. A. Bournia will notify this office as to the acceptability of these proposals.

If there are any questions with this regard they should be addressed to this office.

Very truly yours,

C E Sargent

C. E. Sargent
Nuclear Licensing Administrator

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cc: Mr. A. Bournia

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Figure 1

M.I. 9644

ELECTRO-MOTIVE

MAINTENANCE INSTRUCTION

MODERNIZATION RECOMMENDATION

IMMERSION HEATER — LUBE OIL CIRCULATING PUMP SYSTEM FOR EMERGENCY FAST START INSTALLATIONS

PURPOSE: To provide an improved immersion heater lube oil circulating system, Figs. 1 and 10, that will consistently supply oil to the turbocharger and crankshaft in anticipation of an emergency start.

APPLICATION: All turbocharged "S", "999", and MP45 emergency fast start installations.

DISCUSSION: Wear is minimized if lube oil is supplied to engine and turbocharger bearings prior to and during high speed emergency starts.

EMD's original immersion heater system provided a parallel lube oil circuit whereby oil is supplied to the turbocharger bearings via one path and the oil cooler and filters are flooded via another path. However, following a load run, the branched oil flow is unbalanced because of the thinner viscosity of hot oil. As a result, the oil level in the cooler and filter is not replenished to the full level until the oil cools sufficiently (approximately 3 hours following shutdown). High speed starts during this period do not have the wear minimizing benefits of continually abundant oil supply.

Owners of EMD nuclear standby units have previously been notified of the unnecessary wear caused by equipment exercise or test schedules that routinely call for restarting engines without first allowing for a cooling interval from a previous load run. Although a few random starts under these adverse conditions are not expected to cause difficulty, the cumulative wear from repeated routine starts is likely to affect equipment reliability. EMD recommended that exercise and test schedules be revised to avoid restarting engines until they have had a three hour cooling period following shutdowns.

The primary benefit to be gained from this modification is continual oil replenishment of the oil cooler and filters to the full level regardless of oil temperature and viscosity. It would also remove restart restrictions imposed on exercise or test schedules.

Figure # 2

However, other benefits provided by this improvement make this modification attractive even when exercise or test schedules can be carefully controlled. Oil systems modified in accordance with this instruction provide consistent oil circulation through the engine crankshaft bearings in addition to the turbocharger. As a result, engines very rapidly approach operating oil pressures following start up. Trapped air which may impede oil flow is vented from the system.

Proper performance of this improved system depends on operation of AC motor driven oil pumps. If start-ups are delayed for more than 5 seconds after loss of AC power, we recommend that DC backup pumps be provided with suitable protection against reverse flow through the use of check valves.

Although oil flows through the crankshaft bearings, the standby oil level in the engine is kept below the camshafts and valve rocker arm assemblies. Sight glass indicators, Fig. 2, are used so that the operator can visually ascertain if the system is operating properly under standby conditions.

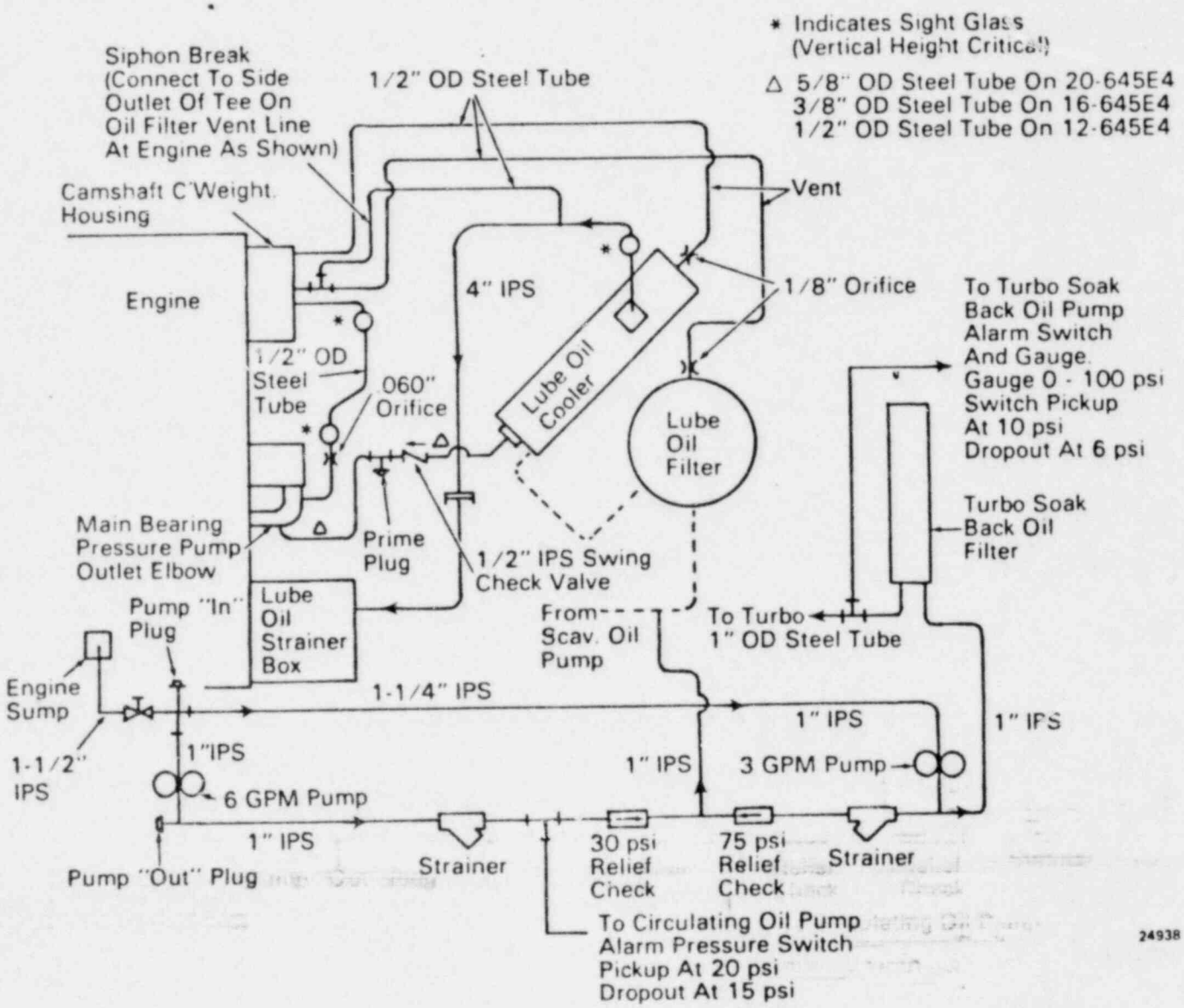

Fig.1 - System Schematic Diagram, "S" Units