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402/636-2000

July 1, 1992
LIC-92-208R

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, DC 20555

References: 1. Docket No. 50-285
2. Letter from NRC (A. B. Beach) to OPPD (W. G. Gates) dated November 22, 1991 (NRC Inspection Report No. 50-285/91-23)

Gentlemen:

SUBJECT: Proposed Permanent Solution and Implementation Schedule Addressing Onsite Emergency Diesel Generator (EDG) Fuel Oil Storage Capacity at Fort Calhoun Station (FCS)

In Reference 2, the NRC identified a violation noting that Omaha Public Power District (OPPD) did not consider the effect on the minimum required onsite EDG fuel oil storage capacity when additional electrical loads were placed on the EDGs as a result of a series of modifications following plant start-up in 1973. In response, OPPD adopted an interim action plan in November 1991 while long-term solutions addressing onsite EDG fuel oil storage capacity were evaluated. After considering the alternatives, OPPD proposes enhancement of the interim action plan as the permanent solution. As noted in Reference 2, OPPD committed to notify the NRC of the plan and implementation schedule by July 1, 1992.

Interim Action Plan:

In November 1991, FCS implemented an interim action plan which provides for transfer of fuel oil from auxiliary boiler fuel oil storage tank FO-10 to EDG fuel oil storage tank FO-1. The interim action plan revised an emergency plan implementing procedure (EPIP) to modify the fuel oil transfer piping for the third auxiliary feedwater pump (FW-54) to allow the transfer of fuel oil from storage tank FO-10 to storage tank FO-1 utilizing the fuel oil transfer pump on FW-54.

An Engineering Analysis (EA-FC-92-047, Rev. 0) on the storage capacity of EDG fuel oil storage tank FO-1 was recently completed, which takes credit for post accident load reductions. EA-FC-92-047 has determined that storage tank FO-1 and the day and base tanks have a fuel oil capacity sufficient for one EDG to continue operating for approximately 4.9 days (EDG No. 2) or 5.2 days (EDG No. 1).

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Using the criteria of IEEE 308, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Systems," as referenced in the FCS Updated Safety Analysis Report (USAR), EA-FC-92-047 conservatively determined that 24,500 gallons is the minimum inventory of fuel oil required to meet 7 day EDG operation. For the additional fuel oil necessary for 7 day operation, OPPD proposes continued reliance on storage tank FO-10 as a source of fuel oil for replenishing storage tank FO-1 in the event of an accident. The following enhancements to the interim action plan are proposed to provide sufficient fuel oil storage for the EDGs at FCS.

Permanent Solution:

1. To reduce the time required to connect FO-10 to FO-1, additional valves and piping will be added to the FW-54 fuel oil transfer piping system. The enclosed drawings (provided for your information only) show the proposed system configuration.

2. Sufficient hose for the FW-54 fuel oil transfer piping system will be dedicated, tagged, and stored in an appropriate area. Periodically, the hose will be checked via a preventative maintenance task to ensure it is available for use.

3. As a backup to the FW-54 fuel oil transfer piping system, a portable pump and sufficient hose will be procured and stored in an appropriate area. Periodically, the pump and hose will be checked via a preventative maintenance task to ensure they are available for use.

4. Appropriate procedure revisions will be completed and new procedures will be implemented as necessary for use of the transfer systems.

5. The fuel oil classification for storage tank FO-10 will be upgraded to "Limited Critical Quality Element (CQE)," with the same quality assurance requirements and inspections currently in effect for fuel oil in storage tank FO-1. Administrative controls for FO-10 fuel oil inventory will be revised to clarify minimum reserve requirements.

6. System walkdowns and training for appropriate personnel will be performed periodically.

7. Technical Specification and USAR revisions will be submitted to clarify the crediting of storage tank FO-10 as part of the onsite EDG fuel oil storage capacity.

Justification:

OPPD's Design Engineering Nuclear Department has reviewed the design documents for storage tanks FO-1 and FO-10. This review has determined that the two tanks are identical, with the only identified differences being the nameplate and current CQE classification. The capacity, foundation, construction materials, construction code, and initial pressurized leak testing are identical for both tanks. Based on the acceptance of storage tank FO-1 in the original licensing basis for FCS, storage tank FO-10 can be relied on as a source of fuel oil for replenishing storage tank FO-1 in the event of an accident.

Although the transfer pump for FW-54 is a non-CQE component, power can be supplied to the transfer pump from either of the two EDGs or from the generator connected to the diesel driver for FW-54. The transfer piping is non-CQE but is qualified to ANSI B31.1-1986 standards. The level indicator (non-CQE) for FO-10 is located in the Service Building. The vendor and model number of the level indicators are the same for both FO-1 and FO-10, and they have similar maintenance requirements.

The auxiliary boiler is designed to heat plant work areas and support water treatment plant operation when the plant is shutdown. The 24,500 gallons of fuel oil necessary for 7 day EDG operation is comprised of the Technical Specification minimum of 16,000 gallons of fuel oil in FO-1, less 240 gallons that cannot be utilized from FO-1, plus 1700 gallons of fuel oil in the day/base tanks, plus an additional 7300 gallons from FO-10, less 240 gallons that cannot be utilized from FO-10. Although only 7,300 gallons of fuel oil is required, 8,000 gallons will be reserved in auxiliary boiler fuel oil storage tank FO-10 for potential transfer to EDG fuel oil storage tank FO-1.

Upon reaching the 16,000 gallon level in FO-10, additional fuel oil would be ordered from offsite sources as currently directed by FCS administrative procedures. At this point, the auxiliary boiler would be able to operate for approximately 53 hours without encroaching on the 8,000 gallons of fuel oil reserved for potential transfer to storage tank FO-1. Fuel oil is normally available within 24 hours from offsite sources, and the Technical Support Center, which would be activated in the event of an emergency, has procedures directing replenishment of the fuel oil supply.

In summary, it is OPPD's position that this solution is justified on a permanent basis for the following reasons:

1. Storage tank FO-10 is identical to storage tank FO-1.

2. Re-configuring the FW-54 fuel oil transfer piping system will substantially reduce preparations necessary to initiate fuel oil transfer from FO-10 to FO-1. Also, preparations to initiate fuel oil transfer from FO-10 to FO-1 would only be necessary if offsite supplies could not be obtained within approximately 5 days, which is considered improbable based on the availability of fuel oil in the immediate area.

3. In the unlikely event that the FW-54 fuel oil transfer system becomes inoperable, it will be backed up by a portable pump to provide fuel oil transfer capability.

4. All equipment necessary to implement the fuel oil transfer will be procured, periodically checked and stored onsite.

5. Appropriate administrative controls will be taken to govern use of the transfer system in the event of a loss of offsite power. These controls will include procedure revisions clearly specifying the order point for replenishing FO-10/FO-1 as well as clarification of the amount of fuel oil that must be reserved in FO-10 for potential transfer to storage tank FO-1. Other administrative measures include training, changing the designation of fuel oil contained in FO-10 to "Limited CQE" (same as fuel oil in FO-1), and appropriate FCS Technical Specification and USAR revisions.

In conclusion, this proposed solution meets the 7 day criteria for onsite storage contained in IEEE 308 as referenced in the FCS USAR. With the exception of the USAR update, which will be submitted with the next annual revision (after NRC concurrence), OPPD will complete implementation of the permanent solution described above within 16 weeks of NRC acceptance of this proposal. In the meantime, OPPD will continue to implement the interim action plan as presented to the NRC in November 1991.

If you should have any questions, please contact me.

Sincerely,

W. G. Gates

W. G. Gates
Division Manager
Nuclear Operations

WGG/sel

Enclosures

c: LeBoeuf, Lamb, Leiby & MacRae (w/o Enclosures)
J. L. Milhoan, NRC Regional Administrator, Region IV (w/o Enclosures)
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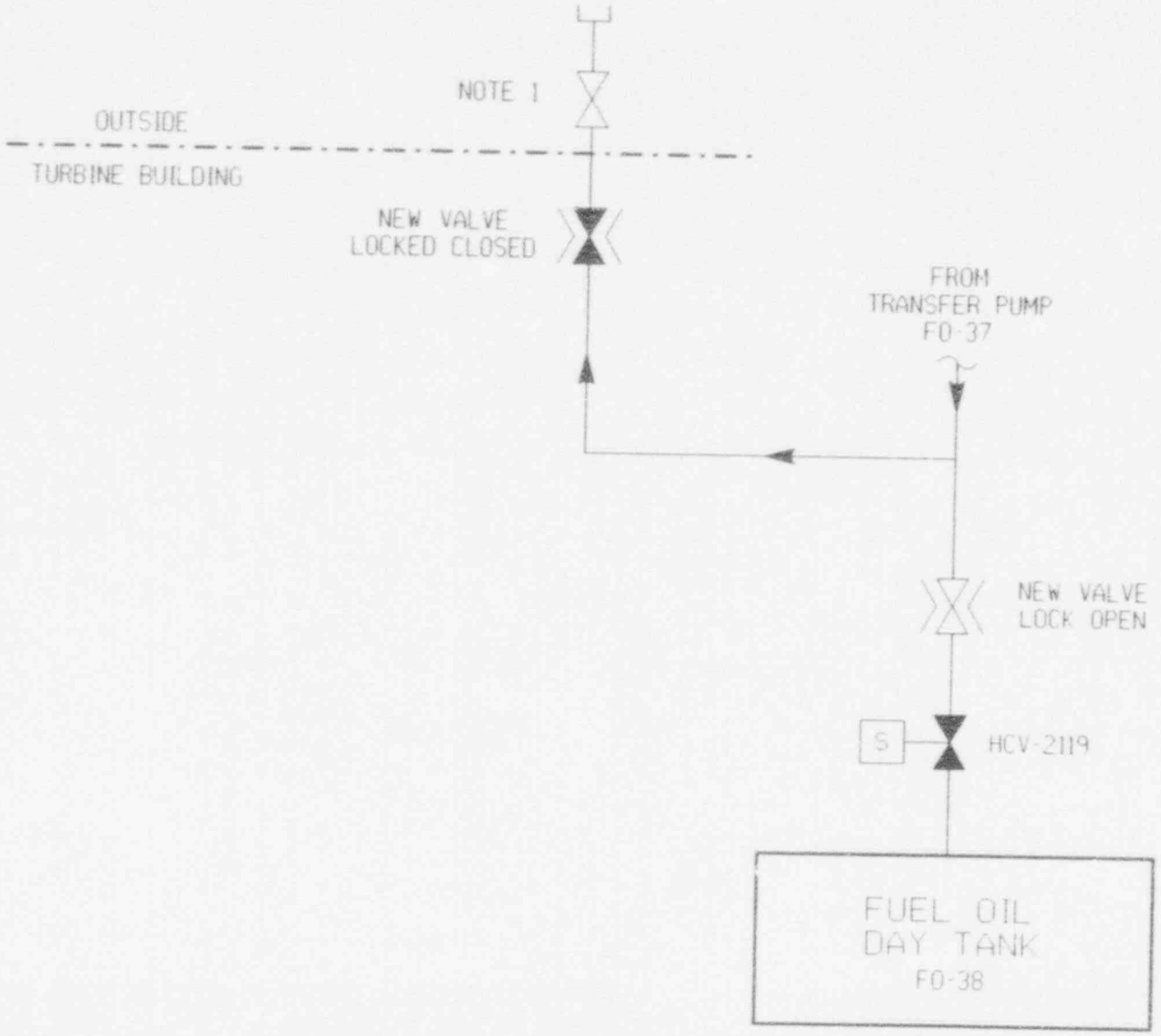

NOTE 1:
THIS VALVE WOULD BE FOR OPERATOR CONVENIENCE ONLY. THE LINE OUTSIDE SHOULD BE DRAINED AFTER USE TO PREVENT FUEL GELLING.

SEE QUADRANT B-7 OF 11905-M-262 SH 1

CONCEPTUAL FUEL OIL TRANSFER PIPING ENHANCEMENT

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