



Commonwealth Edison

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December 3, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Zion Station Units 1 and 2
Proposed Change to Facility
Operating License Nos. DPR-39 and DPR-48
NRC Docket Nos. 50-295 and 50-304

Dear Mr. Denton:

Commonwealth Edison hereby requests a change to Facility Operating License Nos. DPR-39 and DPR-48. A change is requested to Section 3.9.2 of the Technical Specifications for the containment penetration and weld channel pressurization system. The purpose of this change is to clarify the operability requirements in a manner consistent with the functional capability and degree of redundancy of the system.

The function of the containment penetration and weld channel pressurization system is to prevent leakage of containment air through penetrations and liner welds under all conditions by supplying air above the containment post accident design pressure to the positive pressure zones incorporated in the penetration and weld channel design.

The system utilizes a regulated supply of clean and dry compressed air normally taken from the instrument air system to maintain pressure in all penetrations and weld channels whenever plant operating conditions require the containment to be closed. The penetration and weld channels are grouped in four independent zones, each supplied by its own air receiver.

The air for the penetration pressurization air system is normally supplied from the instrument air system through filter dryers. The instrument air is supplied by three 527 cfm, 100 psig air compressors, one normally operating for each unit and one on standby for both units. These air compressors are not seismic Class I and do not receive their power from the essential buses. In the event that these compressors are lost due to an earthquake or loss of outside power, three 97 cfm, 105 psig penetration pressurization air compressors will automatically start upon a decrease in the header pressure and will supply air directly to the penetration pressurization system. The penetration pressurization air compressors are seismic Class I and receive their power from the essential buses, and each compressor is sized to provide several times the maximum allowable leakage from the pressurization systems on both units.

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If both of these sources of air are lost, then the air receivers themselves will be able to supply air to the penetrations for four (4) hours at the rate of 117 cfh, which is the maximum allowable leakage rate of 0.1% of the containment volume per day. If the air in the air receivers is reduced in pressure to below 47 psig, then the standby nitrogen system will supply nitrogen to the zone whose air receiver is below 47 psig. The standby nitrogen system will be able to provide nitrogen for 24 hours at 47 psig at the rate of 117 cfh.

All of these sources of pressure will maintain the weld channels and penetrations at a pressure higher than the post accident design pressure for a time period far in excess of the peak pressure period. However, Zion's present specifications require a unit shutdown if a single penetration pressurization compressor is inoperable for more than 15 days. In view of the fact that at least five other sources of gas supply are available (the two remaining penetration pressurization compressors, the instrument air system, the air receivers themselves, and the nitrogen supply), such a unit shutdown is unnecessary and would impose undesirable thermal cycling.

It should also be noted that no credit was taken for leakage reduction by the penetration pressurization system in the licensing of Zion Station. In the NRC's SER dated October 6, 1972, the radiological consequences of a loss of coolant accident were determined to be acceptable with the assumption of containment leakage at .1% per day for the first 24 hours, and .05% per day for the next 29 days.

The proposed specifications ensure that multiple sources of gas supply are available under all conditions, thus assuring that there will be no containment leakage from penetrations or weld channels.

The required fee for this Amendment will be submitted under separate cover.

Please address questions regarding this matter to this office.

Very truly yours,

F. G. Lentine

F. G. Lentine
Nuclear Licensing Administrator

FGL/lmb

cc: Zion Resident Inspector