

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of
COMMONWEALTH EDISON COMPANY
(LaSalle County Station,
Unit Nos. 1 and 2

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Docket Nos. 50-373, 50-374

EXEMPTION

I.

The Commonwealth Edison Company (ComEd, the licensee), is the holder of Facility Operating License Nos. NPF-11 and NPF-18, which authorize operation of the LaSalle County Station, Units 1 and 2 (the facilities). The licenses provide, among other things, that the facilities are subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facilities consist of two boiling water reactors located at the licensee's site in LaSalle County, Illinois.

II.

Section 50.54(o) of 10 CFR Part 50 requires that primary reactor containments for water-cooled power reactors meet the leakage rate test requirements in either Option A or B of Appendix J, to 10 CFR Part 50. Appendix J, Option B, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," contains performance-based requirements, schedules, and acceptance criteria for tests of the leak tight integrity of the primary reactor containment and the systems and components which penetrate the primary containment. The Commission, in its letter dated March 11, 1996, authorized

the licensee to adopt Option B of Appendix J for the LaSalle Station. Section III.B of Appendix J, Option B, requires, in part, that leak rate testing must demonstrate that the sum of the leakage rates at accident pressure (P_a) of Type B tests, and pathway leakage rates from Type C tests, is less than the performance criterion (i.e., L_a) with margin, as specified in a plant's Technical Specifications (TSs).

The version of Appendix J in effect at the operating license review stage for the LaSalle Station is now identified as Option A of Appendix J. Both Options A and B of this appendix implicitly require that the measured leakage past the inboard and outboard main steamline isolation valves (MSIVs) be included in the evaluation of the Type B and C tests. This combination of measured leakages is identified as the combined local leak rate test results.

When LaSalle was originally licensed, ComEd requested an exemption from this requirement which the staff granted in March 1981. The LaSalle, Units 1 and 2, Safety Evaluation Report (SER) (NUREG-0519) discusses the current exemption from 10 CFR Part 50, Appendix J, Option A, Sections III.C.2(a) and III.C.3, which is based on the conclusions that: (1) the MSIV leak testing methods for the LaSalle Station were acceptable alternatives to the cited requirements of Appendix J; and (2) the measured MSIV leakage rates could be excluded from the evaluation of the Type B and C tests. These conclusions and their bases are presented in Section 6.2.6.1 of the LaSalle SER.

Specifically, the LaSalle SER described that in the event of a loss-of-coolant-accident (LOCA), the LaSalle MSIV leakage control system (LCS) would maintain a negative pressure between the inboard and outboard MSIVs and that

the effluent from the LCS will be discharged into the standby gas treatment system (SGTS) in the reactor building before being released through a stack to the environment. In evaluating the licensee's requested exemption in the LaSalle SER, the staff based its decision to grant the exemption on the results of its independent radiological analysis assuming a TS leak rate limit of 11.5 standard cubic feet per hour (scfh). This TS limit and the subject exemption were subsequently modified in Supplement No. 6 to the LaSalle SER (issued in November 1983) to raise the TS allowable MSIV leakage rate for each of the four main steamlines to 25 scfh. The subject exemption, its description, and conditions have remained in force from that time to the present.

The staff concluded in the LaSalle SER that the LaSalle Station testing procedure, in which two MSIVs on one steamline are tested simultaneously using a reduced test pressure of 20.2 pounds per square inch gage (psig) applied between the inboard and outboard MSIVs, was also acceptable. The use of this LaSalle MSIV test procedure was thereby granted as an exemption from certain of the testing requirements of Appendix J, Option A, to 10 CFR Part 50.

In summary, the staff concluded that the current exemption granted in March 1981, as modified in November 1983, was acceptable based on: (1) the method of MSIV testing; (2) a radiological analysis that assumed a 25 scfh MSIV leak rate for each of the four main steamlines and whose radiological consequences for all primary containment leakage were within the radiation exposure guidelines of 10 CFR Part 100 and met the requirements of 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 19; and (3) the licensee's

commitment to periodically test the MSIVs to ensure that the measured MSIV leakage did not exceed the TS allowable MSIV leakage rates.

The deletion of the MSIV LCS and use of an alternate leakage treatment (ALT) pathway (i.e., the main steamlines, the steam drainlines and the main condenser) as proposed in the licensee's letter dated August 28, 1995, as well as the licensee's proposal to raise the TS allowable MSIV leak rates, affects the description of one part of the subject exemption; i.e., that part which allows the exclusion of the measured leakage from the evaluation of the combined local leak rate test results. Accordingly, the licensee requested in its letter dated August 28, 1995, as supplemented in its letter dated March 4, 1996, a modification to part of the subject exemption from the Commission's regulations in Appendix J. The proposed modification to the subject exemption is from the requirements of 10 CFR Part 50, Appendix J, Option B, Section III.B. which would allow the licensee to (1) continue using a reduced test pressure for the leakage testing of the MSIVs, and (2) continue to exclude the measured MSIV leakage from the combined local leak rate test results.

The licensee also submitted in its letter dated August 28, 1995, a request for license amendments for the LaSalle Station in conjunction with the proposed modification of the existing exemption. The proposed license amendment would revise the LaSalle TSs to reflect the deletion of the MSIV LCS, utilize an ALT pathway and raise the TS allowable MSIV leakage. This proposal is based on the Boiling Water Reactor Owners Group (BWROG) method summarized in General Electric Report NEDC-31858P, Revision 2, "BWROG Report for Increasing MSIV Leakage Rate Limits and Elimination of Leakage Control

System," dated September 1993. When the license amendments are granted, part of the original exemption from the Appendix J leakage test requirements will not be applicable because the description and conditions of the original exemption will be significantly altered.

An important element in the evaluation of the licensee's request to delete the MSIV LCS is whether the components of the proposed ALT pathway for MSIV leakage remain functional under design basis accident (DBA) conditions. In this regard, the staff reviewed the capability of the ALT pathway to withstand the seismic loads resulting from a safe shutdown earthquake (SSE) and remain functional. The staff's review of this aspect found that there was sufficient margin in all ALT components against gross failure under SSE conditions. Further, the staff found that the two redundant paths leading from the MSIVs to the main condenser provided an acceptable level of reliability for the proposed ALT pathway. Finally, the staff found that motor operated valves which define the boundaries of the ALT pathway either have: (1) reliable power sources; (2) will remain in their required open or closed position; or (3) will be administratively controlled. On this basis, the staff found that the proposed ALT pathway would remain functional under DBA conditions.

The staff performed an independent assessment of the radiological consequences of the licensee's proposal to delete the present LCS and establish an ALT pathway to control and process the leakage past the MSIVs as well as the licensee's proposal to increase the TS allowable MSIV leakage rate. This radiation dose assessment evaluated the effect of the proposed

hardware modifications and TS revisions separately and then combined these doses with those resulting from all other leakages from the LaSalle primary containment. The staff found in its radiological assessment of the proposed modification of the existing exemption that the potential offsite and control room doses to personnel remain within the applicable criteria of 10 CFR Part 50, Appendix A, GDC-19 and 10 CFR Part 100 and is consistent with the guidance in Standard Review Plan (SRP) Section 6.4.

The proposed hardware and TS changes associated with deletion of the MSIV LCS do not affect the bases for part of the current exemption. The modification and implementation of the TS change requests will not alter the procedure for MSIV testing (i.e., the test may be performed at a minimum pressure of 20.2 psig applied between the inboard and outboard MSIVs). Furthermore, when Option B was added to Appendix J in September 1995 (60 FEDERAL REGISTER 49495 (1995)), this version stated in Section V.B.1 that specific exemptions to Option A that have been formally approved by the NRC, are still applicable. On this basis, the staff finds that the portion of the existing exemption (i.e., the application of test pressure to its MSIVs) remains in force and no further consideration is required for this portion of the subject exemption request.

As part of its evaluation of the TS change to delete the MSIV LCS, the NRC staff concluded that there is reasonable assurance that: (1) the current MSIV leak testing method (i.e., a minimum test pressure of 20.2 psig applied between the inboard and outboard MSIVs) is an acceptable method for testing MSIV leakage; (2) the proposed MSIV leakage ALT pathway will withstand the

seismic loads from an SSE and remain functional; and (3) the calculated radiation doses assuming an MSIV leakage rate limit of 100 scfh per main steamline, not to exceed 400 scfh for all four main steamlines, are within the radiation exposure guidelines in 10 CFR Part 100, meet the requirements of GDC-19 of Appendix A to 10 CFR Part 50 and are consistent with SRP Section 6.4. On this basis, the staff finds it acceptable to continue to exempt LaSalle, Units 1 and 2, from the 10 CFR Part 50, Appendix J, Option B, requirements to include the measured MSIV leakage rate from the combined local rate tests since the radiological consequences of the MSIV leakage are acceptable and continue to meet the underlying intent of the rule. Therefore, the staff finds that the requested modification to the existing exemption in the licensee's submittal dated August 28, 1995, as supplemented on March 4, 1996, may be granted.

III.

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when: (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security; and (2) when special circumstances are present. Special circumstances are present whenever, according to 10 CFR 50.12(a)(2)(ii), "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule...."

The underlying purpose of the rule is to assure leakage through the primary reactor containment, and systems and components penetrating primary containment do not exceed allowable leakage rate values and that periodic surveillance is performed so that proper maintenance and repair are made. The staff analysis has demonstrated that an adequate margin can be maintained even if leakage past the MSIVs through the ALT pathway occurs at the TS allowable MSIV leakage rates of 100 scfh for each main steamline, not to exceed a total of 400 scfh for all four main steamlines.

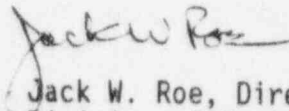
IV.

Accordingly, the Commission has determined that, pursuant to Section 50.12 of 10 CFR Part 50, an exemption is authorized by law and will not present an undue risk to public health and safety, and that there are special circumstances present, as specified in 10 CFR 50.12(a)(2). An exemption is hereby granted from the requirements of Sections III.B, of Appendix J, Option B, to 10 CFR Part 50 regarding testing the MSIVs at accident pressure and including MSIV leakage rates in the sum of the Type B and C leakage rates. The exemption allows: (1) leakage testing of the MSIVs using a minimum test pressure of 20.2 psig applied between MSIVs and a TS leakage rate limit of 100 scfh per main steamline past the MSIVs, not to exceed 400 scfh for all four main steamlines; and (2) exclusion of the measured MSIV leakage rate from the evaluation of the combined local leak rate tests.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment (61 FR 14837).

This exemption is effective upon issuance and will be implemented prior to startup of LaSalle, Unit 1, from its present refueling outage and implemented for LaSalle, Unit 2, prior to startup from its refueling outage scheduled to start in September 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



Jack W. Roe, Director
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Dated at Rockville, Maryland
this 5th day of April 1996