

For the Nuclear Regulatory Commission.

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[Docket Nos. 50-237, 50-249 50-254, 50-265]

Commonwealth Edison Co., Facility Operating License

Exemption

In the Matter of Commonwealth Edison Co. (Dresden Nuclear Power Station, Units 2 and 3; Quad Cities Nuclear Power Station, Units 1 and 2).

I

Commonwealth Edison Company (ComEd, the licensee) is the holder of Facility Operating License Nos. DRP-19 and DRP-25, which authorize operation of Dresden Nuclear Power Station, Units 2 and 3, at a steady state power level not in excess of 2527 megawatts thermal; and Facility Operating license Nos. DRP-29 and DRP-30, which authorize operation of Quad Cities Nuclear Power Stations, Units 1 and 2, at a steady state power level not in excess of 2511 megawatts thermal. Dresden Station is comprised of two boiling water reactors at the licensee's site located in Grundy County, Illinois. Quad Cities Station is comprised of two boiling water reactors at the licensee's site located in Rock Island County, Illinois. These licenses provide, among other things, that Dresden and Quad Cities are subject to all rules, regulations, and Orders of the U.S. Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

II

By letter dated October 4, 1994, the licensee requested a revision to an exemption from certain Type B (local leak rate) testing requirements of appendix J to 10 CFR part 50, for two-ply containment penetration expansion bellows at four reactor units. The request was made because the licensee has developed a set of alternative approaches which can be applied to ensure the intent of requiring a Type A test, as part of the original exemption, is met.

On February 6, 1992, the NRC issued an Exemption from certain Type B testing requirements of Appendix J. This exemption stated upon completion of the two-ply bellows testing program, a Type A integrated leak rate test (ILRT) will be performed to verify primary containment integrity. The testing program was intended to assure that at

least one ply of a two-ply bellows is intact and that overall containment leakage is within its allowable limit as shown by Type A testing. The Type A test was the only test available that could properly quantify the bellows' leakages, albeit not individually. The Exemption also stated that if a method is developed which ensures a valid Type B test on one or more bellows assemblies, those bellows will also be excluded from the Exemption and will be required to be tested in accordance with the normal Type B test program.

III

The original Exemption allowed ComEd to apply special testing techniques in lieu of performing a test which meets Type B requirements for these bellows which, at that time, were unable to be tested in strict conformance to the appendix J criteria. The special testing techniques included a sequence of air and helium based local leak rate tests (LLRT) for each affected penetration and performance of a Type A leak rate test upon completion of the bellows testing during each refuel outage.

Commonwealth Edison Company now believes that the requirement to perform a Type A test every outage is not necessary to ensure that the bellows assemblies are adequately tested and leakage from any leaking bellows assembly is adequately quantified. Through testing of two-ply bellows at Dresden Station and Quad Cities Station, the licensee has developed the following insights:

1. There is minimal probability for the occurrence of a large leak in a two-ply bellows;
2. the special testing program is effective for identifying small leaks in two-ply bellows;
3. the Type A test is ineffective for identifying small leaks in two-ply bellows; and
4. more cost effective alternative methods have been developed for quantifying leakage.

At the time of the original request for an exemption, a Type A test was required every outage in accordance with the Technical Specifications (TS) and appendix J criteria for determination of ILRT test frequency. Based on appendix J and the TS, ComEd need not do a Type A test every refuel outage if they have completed two consecutive successful Type A tests. Quad Cities has completed two consecutive successful Type A tests. However, as previously stated the original exemption requires a Type A test every outage to support the two-ply bellows leakage testing.

The licensee has discovered very small leaks using the special testing techniques in some bellows and they have subsequently been modified, removed from the list described in the original exemption and are not on a Type B testing schedule.

The licensee has identified several methods for conducting a valid Type B test on bellows since the original Exemption was issued. The first method involves the addition of a bellows test enclosure equipped with leaktight seals. The second involves installation of a rubber boot inside the drywell to form a seal between the drywell atmosphere and the bellows. The third is to weld a cover plate inside the drywell to provide a seal between the process pipe and the drywell atmosphere. The licensee also has the option to implement a complete replacement of the existing two-ply bellows assemblies with a new testable two-ply bellows.

The licensee has proposed the following revision to the approved exemption for non-Type B testable bellows. This proposal eliminates the need but keeps the option to perform a Type A test every refuel outage. The licensee proposed to include the following alternatives to the current requirement in place of the existing Section III.6 and .7 in the original Exemption:

Upon completion of the two-ply bellows special testing program, the following actions shall be taken to address any two-ply bellows which have been identified as leaking through both plies:

- (A) All bellows which leak through both plies shall be tested in accordance with Type B requirements to ensure license limits are met prior to return to service, or
- (B) A Type A ILRT test shall be performed to verify primary containment integrity. All two-ply bellows assemblies which demonstrate leakage through both plies shall be replaced or subjected to a valid Type B test to demonstrate license limits are met prior to return to service from the subsequent refuel outage, unless ComEd provides justification for continued operation greater than one operating cycle.

The licensee states that the estimated cost of a Type A test, as described in NUREG-1493, "Performance-Based Containment Leak-Test Program," Draft Revision 2, dated March 31, 1994, is \$1.89 million. Based on the number of historical leaking bellows found at Dresden and Quad Cities during the refuel outages, the cost of the Type A test per bellows ranges from \$378k to \$1.89M. The licensee also states that the Type A tests performed every outage since approval of the current exemption have never found a bellows leak which was undetected by the special testing program. The techniques of the special