



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

April 5, 1991

Dr. Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Quad Cities Nuclear Power Station Units 1 and 2  
Submittal of Relief Request for  
Inservice Inspection Program  
NRC Docket Nos. 50-254 and 50-265

Reference: R. Stols (CECo) letter to T. Murley (NRC),  
dated January 21, 1991.

Dr. Murley:

The referenced letter submitted a relief request to the Quad Cities Station Inservice Inspection (ISI) Program which pertained to the performance of the ASME Code (Section XI) Class 1 system leakage test following the replacement of three (3) Electromatic Relief Valves (EMRV), and a pilot valve assembly on a fourth EMRV, during a forced maintenance outage. The system leakage test was required due to the disassembly and reassembly of Class 1 mechanical connections, which were not isolable from the reactor vessel, to support the work on the EMRVs. Based on the personnel exposure and critical path outage impact for the performance of the normal Class 1 system leakage test, Commonwealth Edison Company (CECo) requested and received relief (on a "one-time" basis) from your staff to perform the leakage test at 920 psig during the unit startup from the outage. During the discussions with your staff for this relief request, CECo indicated that relief for these types of situations (disassembly/reassembly of unisolable Class 1 mechanical connections) would be pursued for the current ten-year interval of the Quad Cities Station ISI Program. This letter presents that relief request.

The attached relief request (CR-14) allows the Section XI Class 1 system leakage test for unisolable Class 1 mechanical connections (located in the drywell) to be performed at 920 psig during unit startup, when disassembly and reassembly of these connections has occurred either: 1) subsequent to the performance of the normal Class 1 system leakage test (or hydrostatic test) conducted near the end of each refueling outage; or 2) during a forced maintenance outage in the course of an operating cycle. The relief request is for the duration of the current ten-year interval for the ISI Program, which concludes on February 18, 1993 for Unit 1 and March 10, 1993 for Unit 2.

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Dr. T.E. Murley

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April 5, 1991

Please direct any questions or comments on this letter to this office.

Respectfully,

*Milton H. Richter*

M.H. Richter  
Nuclear Licensing Administrator

Attachment: Relief Request Number CR-14 for Quad Cities Station

cc: A.B. Davis - Regional Administrator, Region III  
L.N. Olshan - NRR Project Manager, Quad Cities  
T.E. Taylor - Senior Resident Inspector, Quad Cities  
R. A. Hermann - NRR Technical Staff

MR:cag  
ZNLD861/6-7

**ATTACHMENT**

**RELIEF REQUEST NUMBER CR-14**

**FOR**

**QUAD CITIES STATION**

RELIEF REQUEST NUMBER: CR-14

COMPONENT IDENTIFICATION

Code Class: 1  
References: Article IWA-5211(a)  
Article IWB-5221(a)  
Examination Category: B-P  
Item Number: B15.50, B15.60, B15.70  
Description: System leakage test pressure for the  
disassembly and reassembly of Class 1  
mechanical connections.

CODE REQUIREMENT

IWA-5211(a) requires a system leakage test to be conducted following the opening and reclosing of a component in the system after pressurization to nominal operating pressure.

IWB-5221(a) states that the system leakage test shall be conducted at a test pressure not less than the nominal operating pressure associated with 100% rated reactor power.

BASIS FOR RELIEF

The nominal operating pressure associated with 100% rated reactor power is 1,000 psig. Near the end of each refueling outage, a system leakage test at 1,000 psig, or a hydrostatic test at 1,110 psig, of all Class 1 pressure retaining components is conducted.

Subsequent to the system leakage test or the hydrostatic test during a refueling outage, or during forced maintenance outages which can occur during an operating cycle, it may become necessary to disassemble and reassemble Class 1 mechanical connections that are located in the drywell and cannot be isolated from the reactor vessel. For these situations, the performance of a Class 1 system leakage test at 1,000 psig would have a significant impact on the unit's critical path outage time and personnel exposure.

The normal Class 1 system leakage test, which is performed with the vessel flooded up, requires numerous equipment outages (e.g., in excess of 300 valves must be taken out-of-service, Main Steam safety valves must be gagged). Performance of the equipment outages, coupled with the performance of the system leakage test, takes approximately 5 days (3 shifts per day) with a total personnel exposure of approximately 2.5 Man-Rem.

Performance of a system leakage test using reactor pressure during unit startup is possible, however, the test can not be performed at 1,000 psig. During unit startup, the Electro-Hydraulic Control System precludes a reactor pressure above 950 psig without significant increases in reactor power. In order to achieve a pressure of 1,000 psig, the reactor would have to be at approximately 100% rated power. The radiation levels in the drywell at this power level are prohibitive, and prevent drywell entry by plant personnel.



A drywell entry to inspect for leakage can be performed at 920 psig, which is associated with approximately 15% reactor power. Performance of the leakage test in this manner would have an insignificant impact on the ability to detect leakage from a reassembled mechanical connection. It would also significantly reduce the personnel exposure and critical path outage time required for the test.

#### PROPOSED ALTERNATE EXAMINATION

A system leakage test at 920 psig during unit startup will be performed when an unisolable Class 1 mechanical connection in the drywell has been disassembled and reassembled either: 1) subsequent to the performance of the normal Class 1 system leakage test or hydrostatic test conducted near the end of each refueling outage; or 2) during a forced maintenance outage in the course of an operating cycle.

#### APPLICABLE TIME PERIOD

Relief is requested for the current ten-year interval of the Inservice Inspection Program for Units 1 and 2 (which concludes on February 18, 1993 for Unit 1 and March 10, 1993 for Unit 2).