Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

February 10, 1992

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

Dear Dr. Murley:

Subject: Braidwood Station Units 1 and 2
Inservice Testing Program Plan for Pumps and Valves
NRC Docket Nos. 50-456 and 50-457

References: (a) January 31, 1989 S.C. Hunsader letter to T.E. Murley transmitting Revision 4 of the IST Program
(b) July 15, 1991 T. Murley letter to A. Checca transmitting Revision 5 of the IST Program
(c) October 10, 1991 R. Pulsifer letter to CECo. summarizing the October 1, 1991 Meeting
(d) October 15, 1991 R. Barrett letter to T. Kovach transmitting SER for Rev 4 IST Program.

Reference (a) transmitted Revision 4 of the Braidwood Inservice Testing (IST) Program. By Reference (b), Revision 5 of the IST Program was submitted. Reference (c) documents a meeting conducted on October 1, 1991 to review the Revision 4 1st program and draft Safety Evaluation Report. This SER was transmitted via Reference (d).

The NRC Safety Evaluation Report for Braidwood Station (d) requested that the anomalies contained in Appendix C be addressed within six months. Many of the anomolies noted in the Revision 4 SER have been addressed in the Revision 5 IST Program submittal. Attachment A provides a summary of each item from Appendix C as addressed in Revision 5 of the IST program.

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Additionally, Braidwood Station requests interim relief identical to the accepted Byron relief request VR-04. This relief request for Braidwood was submitted in Revision 5 and discussed at the October 1 meeting. It is also requested that relief request VR-17 have the interim period extended to one full year versus six months. This extension was also a subject of discussion at the October 1 meeting. Attachment B to this letter contains additional information and justification for these interim relief requests.

Please address any questions you may have regarding this matter to this office.

Respectfully,

Terrence W. Simpkin

T.W. Simpkin
Nuclear Licensing Administrator

Attachments: A - Response to SER Appendix C items
B - Additional information on Relief Requests VR-04 and VR-17

cc: R.M. Pulsifer - Project Manager, NRR (w/ attachments)
Resident Inspector - Braidwood (w/o att)
B. Clayton - Region III (w/o att)

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Attachment A
Response to SER Appendix C
IST Program Anomalies

Item: 1. The licensee has proposed in pump relief request PR-1 to utilize pump vibration velocity measurements, taken as described in the IST program rather than vibration displacement measurements as required by IWV-4120 (see TER section 3.2.1). However, their proposal does not thoroughly describe how this testing will be performed, for example; there is no reference as to how measurements will be taken on centrifugal pumps. Also, the licensee's proposal differs from vibration measurement programs previously found acceptable to NRC. Relief should be granted from the Code requirements provided the licensee performs pump vibration testing in accordance will all the applicable requirements of ANSI/ASME OMa-1988, Part-6.

Response: Relief request PR-1 was revised per Revision 5 to specifically delineate that vibration testing is performed in accordance with the requirements of ANSI/ASME OMa-1988, Part-6.

Item: 2. The boric acid transfer pumps are not included in the Braidwood Station IST program. This is an OPEN ITEM for the NRC.

Response: These boric acid transfer pumps were added to the IST program per revision 5 for tracking purposes only and will be tested in accordance with technical approach and position PA-01.

Attachment A
Response to SER Appendix C
IST Program Anomalies

Item: 3&4 Valve relief request VR-4 (see TER section 4.1.1.1) proposes to verify the full-stroke open capability of the containment spray ring header check valves 1(2)CS008A and B, by disassembly and inspection or a full-flow test during refueling outages. Since full flow testing is not impractical for these valves the licensee should full flow test these valves each refueling outage in accordance with Generic Letter No. 89-04, Attachment 1, Position 1.

Valve relief request VR-4 (see TER section 4.1.2.2) proposes to part-stroke exercise the containment spray pump discharge check valves, 1(2)CS003A and B, quarterly and to verify their full-stroke open capability by disassembly and inspection or a full-flow test during refueling outages. Since full flow testing is not impractical for these valves the licensee should full flow test these valves each refueling outage in accordance with Generic Letter No. 89-04, Attachment 1, Position 1.

Response: Relief request VR-4 was revised to coincide with Byron Station's approved interim relief request. As discussed the October 1, 1991 meeting with NRR representatives, Braidwood is requesting the same interim relief for VR-4 as given to Byron for the Revision 5 relief request. An attempt will be made by Byron Station to demonstrate full stroke capability acoustically. The results of the acoustic testing performed at Byron for valves 1CS008A/B will be used to determine any necessary changes to VR-4.

Attachment A
Response to SER Appendix C
IST Program Anomalies

Item: 5. Valve relief request VR-5 (see TER section 4.2.1.1) proposes to exercise the accumulator discharge check valves, 1(2)SI8948A-D and 1(2)SI8956A-D, at least each refueling outage by discharging into the reactor vessel and during cold shutdowns, if not performed during the last nine months, by providing a surge volume in the pressurizer, "burping the valves," and noting a change in pressurizer level. Relief should be granted from the Code frequency requirements provided the licensee full-stroke exercises these valves in accordance with Generic Letter No. 89-04, Attachment 1, Position 1, at their proposed frequency.

Response: Relief request VR-5 was revised to explain how acoustic testing was used to verify full-stroke exercise of the accumulator check valves during the injection test. Based on the acceptance flow criteria in the surveillance test procedure, these valves are indeed full-stroked. In addition, Braidwood Station is requesting refueling frequency versus certain cold shutdowns for the reasons given in the Revision 5 IST program submittal. The preventive maintenance program for these valves requires that acoustic testing be performed on each valve once every four refueling outages.

Item: 6. Valve relief request VR-12 (see TER section 4.8.2.1) addresses fast-acting (rapid-acting) valves (i.e., valves that normally operate in 2 seconds or less), however, the IST program valve list identifies maximum stroke times for these valves of from 2 to 10 seconds. The licensee's proposal to assign a fast-acting limit of 2 seconds and upon exceeding this limit to increase the test frequency to monthly and to trend the stroke times is not in accordance with NRC Generic Letter No. 89-04 and does not provide a reasonable alternative to the Code requirements. Relief should be granted from the Section XI, Paragraph IWV-3417(a), requirements provided the licensee complies with NRC staff Position 6, on Rapid-acting valves in NRC Generic Letter No. 89-04, Attachment 1.

Response: Relief request VR-12 was revised in Revision 5 of the IST program to reflect the requirements of Position 6, for rapid-acting valves in Generic letter 89-04, Attachment 1.

Attachment A
Response to SER Appendix C
IST Program Anomalies

Item: 7. Valve relief request VR-17 (see TER section 4.7.1.1) requests relief from stroke time testing the service water valves from the auxiliary feedwater pump lube oil coolers, 1(2)SX101A, and proposes to verify valve operability during quarterly auxiliary feedwater pump surveillance testing. An alternate method of stroke timing these valves is necessary for determining their operational readiness and should be actively pursued. Methods employing magnetics, acoustics, ultrasonics, or other technologies should be investigated for their suitability. The licensee's proposal to verify the valves are stroking quarterly during pump surveillance tests should be acceptable on an interim basis, but, it does not adequately evaluate the valve condition and does not present a reasonable long term alternative to the Code requirements. Therefore, relief should be granted for an interim period of six months while the licensee develops a method of measuring the stroke times of these valves.

Response: Relief request VR-17 war revised in Revision 5 of the IST program to specify monthly testing to verify exercising of 1/2SX101A direct acting solenoid valves. Based on discussions during the October 1, 1991 meeting, a method to stroke time these valves acoustically will be investigated.

Item: 8. The licensee has included the power operated relief valves (PORVs) in their IST program as Category B valves and proposed to exercise these valves quarterly. Since these valves have shown a high probability of sticking open and are not needed for overpressure protection during power operation, routine exercising during power operation may not be practical. The PORVs should be exercised prior to achieving the condition, which requires them to be operable and the exercising frequency should be on the approach to the cold shutdown condition and prior to the time when these valves are required to be operable for low temperature overpressurization protection. The licensee should consider whether the test frequency for these valves should be adjusted.

Response: The frequency for testing the power operated relief valves (PORVs) was revised to reflect a cold shutdown frequency. Note 36 of revision 5 provides the justification for this frequency. Additionally, Amendment 33 to the Braidwood Technical Specification require that the full stroke test be accomplished in Modes 3 or 4.

Attachment B
Valve Relief Requests VR-4 and VR-17
Interim Approval

Relief Request VR-4:

This relief request was revised to disassemble and inspect the 1/2CS003A/B and 1/2CS008A/B check valves on a sampling basis during refueling outages, followed by specific post-maintenance tests and inspections. Braidwood is requesting the identical interim relief granted for Byron. This relief request has already been submitted as part of the Revision 5 IST program. Additionally, Braidwood will be working with Byron to investigate the feasability of developing a meaningful acoustic test methodology. Based on the results of testing at Byron, this relief request will be revised to incorporate any new test methodology.

Relief Request VR-17:

This relief was revised per Revision 5 of the IST program to specify monthly testing versus quarterly testing to verify exercising of the 1/2SX101A direct acting solenoid valves. Based on discussions during the October 1, 1991 meeting, a method to stroke time these valves acoustically will be investigated. It is requested that the interim relief period be increased from six months to one year. This is due to the lack of proper test equipment and instrumentation, detailed knowledge, and experience associated with stroke timing this type of solenoid valves acoustically. Preliminary tests using acoustics have been conducted, and the preliminary results are inconclusive. Since these valves are part of the AF motor driven pump start circuit, testing is performed during the monthly pump start surveillance. In order to establish a repeatable test methodology additional time is needed. Also, because these valves use differential pressure across the main disc to open, it is not clear that a repeatable stroke time can be achieved.