Commonwealth Edison Company
1400 Opus Place
Downers Grove, IL 60515

December 22, 1995

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

ComEd

Attention: Document Control Desk

Subject: Revision 0 of the Inservice Testing Program for Pumps and Valves For Byron's Second Ten-Year Interval
Byron Station Unit 1 and Unit 2
Docket Numbers: 50-454 and 50-455

References:
1. Harold D. Pontius, Jr. (ComEd) letter to the Nuclear Regulatory Commission, dated July 5, 1995, Extension of Byron U-1 IST First Ten Year Interval to June 30, 1996.
2. Marcia Lesniak (ComEd) letter to the Nuclear Regulatory Commission dated December 1, 1995, Requesting approval for Concurrent Intervals for U-1 and U-2.

In accordance with 10CFR50.55 (g)(5)(i), the Commonwealth Edison Company (ComEd) hereby submits the Second 10 year Interval Inservice Testing (IST) Program for Byron Station Units 1 and 2. Attached for your review is this program which is scheduled to take effect as of July 1, 1996; therefore ComEd requests approval of this program by June 14, 1996.

As background, for the first ten year interval, Byron Station has been conducting inservice tests on IST pumps and valves in accordance with the 1983 Edition, including addenda through the Summer 83 Addenda, of the ASME Section XI Code, Subsections IMP (pumps) and IWV (valves). The first ten year interval for Byron Unit 1 originally was set up from September 16, 1985, to September 15, 1995. Byron Unit 2 was set up from August 21, 1987 to August 20, 1997. Due to the desire to get the Inservice Inspection (ISI) and IST Prog n the same interval, the U-1 Byron IST first ten year interval was extended to June 30, 1996, per Reference (1).

It is desirable to have both units following requirements from the same Code Edition and Addenda, to accomplish this, Byron has asked the NRC to approve concurrent intervals for U-1 and U-2, corresponding to the dates previously mentioned for the U-1 second ten year interval, per Reference (2). Byron's plan is to implement the attached submittal for both U-1 and U-2, pending approval of concurrent intervals to include U-2.

Per 10CFR50.55a(f)(4)(ii), the initial Program Plan, for Byron's second ten year interval, has been prepared to the requirements of Section XI of the 1989 Edition of the ASME Boiler and Pressure Vessel Code, Subsections IMP and IWV. The 1989 Edition of ASME Code Section XI subsequently references the ASME/ANSI OM (Part 6) for pump testing, and ASME/ANSI OM (Part 10) for valve testing. The Edition and Addenda of ASME/ANSI OM Part 6 and Part 10 shall be the OMa-1988 Addenda to the OM-1987 Edition.

One of the major areas of review for the ten year update was scope. Byron/Braidwood performed a joint scope review and incorporated all valves, except relief valves, into previous First Interval Program revisions. The relief valve additions have been included in the 2nd Interval Plan. Additionally, the IST Pump and Valve Tables were reviewed for omissions/additions. See Attachment A for a list of scope additions and/or deletions.

Attachment B is a general summary of changes made in comparison to Revision 10/10a of the First Ten Year Interval Program for Pumps and Revision 13/13a/13b of the First Ten Year Interval Program for Valves.

Attachment C contains, "Inservice Testing Plan Pumps and Valves Byron Nuclear Generating Station Units 1 and 2."

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If you have any questions please contact this office.

Sincerely,

Denise M. Saccomando
Senior Licensing Administrator

Attachments

cc: G. Dick, Byron Project Manager-NRR
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ATTACHMENT A
SCOPE ADDITIONS/DELETIONS

A. Due to Byron/Braidwood Scope Reviews, the following 69 relief valves are being added to the program.

	Valve	Description or Function
1.	0CC9432	Relief on SFP HX Disch to CC Pump Suction
2.	0GW9300A-F	Gas Decay Tank Relief Valves
3.	0WO028A/B	Control Room Chiller Relief Valve
4.	1/2CV8117	Relief Valve to Protect L/D and Regen Heat Exchanger
5.	1/2CV8118	PD Pump Discharge Relief Valve
6.	1/2CV8121	Relieves Pressurizer Relief Tank
7.	1/2DO020A-D	Relief Valve at the Discharge of the Diesel Oil Transfer Pumps
8.	1/2RY030A/B	Relieves overpressure of the PORV Accumulator.
9.	1/2SA148A-D	Starting Air Receiver Overpressure Relief
10.	1/2SI8853A/B	SI Pump Discharge Relief Valve to Hot Leg
11.	1/2SI8856A/B	RHR HX Outlet Header Relief Valve
12.	1/2SI8858	SI pump Suction Relief Valve
13.	1/2CS08MA/B	Spray Add Tank Vacuum Relief Valve
14.	1/2VF01M	RWST Vacuum Relief (augmented test)
15.	1/2CV8124	Charging Pump Suction Relief Valve
16.	1/2SI8851	SI to Cold Leg Relief Valve
17.	1/2SI8842	RHR HX outlet Relief Valve
18.	1/2SI8855A-D	Accumulator Relief Valve
19.	1/2SI121A/B	1/2SI8811A/B Valve Bonnet Relief Valves

B. Due to the safety function requiring these valves to close to isolate the Component Cooling System from a potential RCP thermal barrier rupture, the following 8 check valves are being added to the program. Testing will actually begin during the B1R07 spring outage (first interval).

	Valve	Description or Function
1.	1/2CC9495A-D	CC Check Valve to RCP Thermal Barriers

C. The following testing has always been performed, but has been omitted from the program tables in the past:

Fail-safe Testing:	Backflow Testing:
1/2VQ003, 4A, 4B, 5A-C	1/2PR002G
1/2CV8114, 1/2CV8116	1/2PR002H

D. A Stroke Time Test and Indication Test of the following four valves are being added to the IST Program Tables. Byron originally only committed to performing a fail-safe test on these valves, but has been performing a local and remote stroke time test outside of the IST Program on an 18 month frequency (per 1/2BVS 3.2.2-10). The IST quarterly stroke time test and position indication test should begin within the next quarter (first interval).

1. 1/2SX147A/B

E. The following tests will be deleted from the IST Program in the Second Ten Year Interval Program, to become effective on July 1, 1996, at Byron:

1/2CC9486 check valve full stroke test (flow to the RCPs is not required in accident situations)

1/2CV128 position indication test (stroke timed locally - remote position indication test is not required).

ATTACHMENT B

Summary of Major Changes for Revision 0
of the 2nd Interval Inservice Testing Program
Plan for Pumps and Valves

A. General Changes:

1. The IST Program has been separated from the ISI Program and will be maintained as a stand alone document. NRC submittals will continue to be separate from the ISI Program.

2. A revision summary sheet has been incorporated as the first page of the document to easily illustrate any revisions that are made throughout the second interval.

3. A new Table of Contents format has been utilized.

4. Code references were revised throughout to reflect the new Code.

5. Summary sheets have been added at the beginning of major sections.

6. All justification sections, and relief requests, now include a Drawing Number and Drawing Coordinate for each component.

B. Section 1.0 Information Common to Pumps and Valves:

1. The introduction section has now been combined for Pumps and Valves, with specific information noted concerning common information (Code information, interval dates, etc.)

C. Section 2.0 IST Pump Plan:

1. OM-6 allows the elimination of measuring lubricant level or pressure; bearing temperatures; and inlet/discharge pressure (may still be required to obtain the required differential pressure). Discharge pressure, rather than differential pressure, is required for positive displacement pumps.

   Results:

   a. Inlet pressure, bearing temperature, and lubrication level descriptions and columns removed from section 2.1.1, Pump Table Descriptions, and section 2.1.2, Pump Tables. Changed wording of pressure column description to reflect OM-6.

   b. Deleted previous notes associated with lubricant level and inlet pressures.

2. Previous note 7 has become Technical Position **PA-02**, concerning the Boric Acid Transfer Pumps. This eliminates the entire note section. Technical Position PA-01, submitted in revision 10a, remains as Technical Position **PA-01**.

3. Deleted previous Relief Request PR-1, which had asked for relief to adopt the OM-6 vibration methods.

4. Deleted previous Relief Request PR-2, which had asked for relief from measuring pump bearing temperatures.

5. PR-3, PR-4, and PR-7 were already previously deleted.

6. Deleted previous relief request PR-5, which had asked for relief for using ultrasonic flowmeters in applications which exceed a full scale range of three times the reference values. Per paragraph 4.6.1.2 of OM-6, this requirement only applies to analog gauges. Digital gauges are allowed to be selected such that the reference value shall not exceed 70% of the calibrated range of the instrument. Since it is possible to calibrate over a specific range for ultrasonic flowmeters, this relief will not be required.

7. Deleted previous Relief Request PR-6, asking for relief to use discharge pressure rather than differential pressure for the Diesel Oil Transfer positive displacement pumps. This is alternative is allowed per OM-6.

8. Previous Relief Request PR-8 has now become **PR-1**. It was previously submitted as Revision 10a to the IST Pump Program for the first interval. Byron has been informed that the NRC has given verbal approval of this relief request and expects written approval in the near future. Approval is pending for the second interval.

D. **Section 3.0 IST Valve Plan:**

1. **Section 3.1.1, Valve Table Descriptions (also reflected in section 3.1.2, Valve Tables):**

   a. Revised Fail-Safe Test (Ft) to indicate more specifically Fail-Safe Test Open (Fo) or Fail Safe Test Closed (Fc) .

   b. "Test Mode" column revised to indicate "Test Frequency" with the following revised or new designations:

      i. Normal Operation (OP) revised to indicate Quarterly (Q)

      ii. Semi-annual (S) test frequency removed. This frequency was being used for some VQ Tech Spec leak test requirements, but has been revised to fall under the Appendix J test frequency.

      iii. Tech Spec Cold Shutdown (CSTS) frequency was added to the table to indicate when RCS pressure isolation valves (PIV) are required to be leak tested. This frequency would also apply for the backflow tests of the PIV check valves.

      iv. Eighteen Month (18m) designation added to encompass proposed relief request frequencies.

      v. Two Year (2Y) frequency added mainly due to the requirement that indication tests be performed at least once every two years.

      vi. Five Year (5Y) and Ten Year (10Y) frequencies created to encompass relief valve frequencies for class 1 valves, and class 2 or 3 valves, respectively.

      vii. Sample Disassembly (SD) designation created for those check valves which are disassembled to satisfy IST requirements

      viii. The Appendix J (AJ) designation is for those valves which are tested at the frequency of the Appendix J leak test. Byron expects to obtain NRC approval by the end of February 1996 to allow the performance-based Appendix J Program to take affect. This would allow testing to go beyond a refueling outage frequency for the good performers.

   c. Deleted the "Remarks" column, and added "Cold Shutdown Justification" and "Refueling Outage Justification" columns. OM-10 allows the licensee to justify cold shutdown and refueling outage frequencies without NRC approval. Per the 1983 Edition, only cold shutdown frequencies could be justified without NRC approval.

2. **Section 3.1.3 Note Section:**

a. **Note 1** was created from previous Relief Request VR-1, which allowed leak rate testing of containment isolation valves to be completed via the Appendix J Leak Test. OM-10 allows this provision per paragraph 4.2.2.2. This note references which valves are affected.

b. Previous Notes 1-5 have been incorporated into new Cold Shutdown Justifications **VC-1 through VC-5.** Additional information was added to the cold shutdown justifications to support the format and reasoning behind them.

c. Previous Note 6 was incorporated into new Cold Shutdown Justification **VC-15**. Additional information was added to the new cold shutdown justification to support the format and reasoning behind it.

d. Previous Notes 7-10 have been incorporated into new Cold Shutdown Justifications **VC-6 through VC-9.** Additional information was added to the cold shutdown justifications to support the format and reasoning behind them.

e. A portion of previous Note 11 (the part associated with the stroking of the 1/2VQ001A/B and 1/2VQ002A/B valves) has been incorporated into new Cold Shutdown Justification **VC-24**. Additional information was added to the new cold shutdown justification to support the format and reasoning behind it. The rest of previous note 11 concerning leak testing frequencies of VQ valves are now covered under **Note 1**, the revised Appendix J Program.

f. Previous Notes 12, 13, and 14 have been incorporated into new Cold Shutdown Justifications **VC-11 through VC-13**. Additional information was added to the cold shutdown justifications to support the format and reasoning behind them.

g. Previous Notes 16, 17, and 21 have been incorporated into Refueling Outage Justification **ROJ-14**. Additional information was added to the new refueling outage justification to support the format and reasoning behind it.

h. Previous Note 20 is now **Note 5**.

i. Previous Note 22, concerning the monitoring of check valves 1/2PS231A/B open quarterly has been moved to **Note 2**.

j. Previous Note 23 is now **Note 7**.

k. Previous Note 24 is now **Note 8**.

l. Previous Note 28 has been incorporated into new Cold Shutdown Justification **VC-16**. Additional information was added to the new cold shutdown justification to support the format and reasoning behind it.

m. Previous Note 30 has been incorporated into new Cold Shutdown Justification **VC-11** (along with Note 12). Additional information was added to the new cold shutdown justification to support the format and reasoning behind it.

n. A portion of previous Note 31, involving 1/2SI8919A/B, has been incorporated into **Note 9**. The remainder has been deleted.

o. Previous Note 33 has been slightly revised and is now **Note 10**.

p. Previous Note 34 has been revised and is now **Note 11**.

q. The subject of Previous Note 35 has been incorporated into **ROI-9**. Additionally, previous Relief Request VR-15B has also been incorporated into **ROI-9**.

r. Previous Note 36 has been split up as follows:

(1) Cold Shutdown frequency for the stroke of 1/2RY455A and 1/2RY456 placed in Cold Shutdown Justification **VC-14**. Additional information was added to the new cold shutdown justification to support the format and reasoning behind it.

(2) Indication testing at Refueling placed in **Note 12**.

s. Previous Notes 37-39, involving backflow testing of 1/2PR032, 1/2PS231A/B, and 1/2SI8968 at Cold Shutdown have been incorporated into Relief Request **VR-1**, requesting approval of an Appendix J test frequency. These tests are currently completed using LLRT equipment.

t. Previous Note 41, involving backflow testing of some PIVs, is now covered under Cold Shutdown Justification **VC-15**.

u. Previous Note 42, involving testing of 1/2SI8948A-D check valves are now covered under Cold Shutdown Justification **VC-17** and Refueling Outage Justification **ROI-2**.

v. Previous Note 43, involving the stroke time testing of 1/2RH8716A/B, has been expanded and is now covered under new Cold Shutdown Justification **VC-18**.

w. Previous Note 44, involving the stroke time testing of 1/2CC9415, has been expanded and has been incorporated in new Cold Shutdown Justification **VC-19**. Additionally, stroke time testing of other CC valves, previously covered under relief request VR-8, have also been incorporated into **VC-19**. Finally, the CV valves previously covered under Relief Request VR-9 (Cold Shutdown with all RCPs off), are also now covered under **VC-19**.

x. Previous Note 45, involving the closure test of the 1/2FW036A-D valves, has been expanded and is now covered under Cold Shutdown Justification **VC-20**.

y. Previous Notes 15, 18, 19, 32, and 46 were previously deleted.

z. Previous Notes 16, 17, 21, 25, 26, 27, 29, will be reviewed for implementation into the Byron/Braidwood Bases Document.

aa. New **Notes 3, 4, 6, 13, and 14** are added in this revision.

3. **Section 3.2.2, Valve Technical Positions:**

a. Previous Technical Position VA-1, Method of Stroke Timing Valves, has been revised accordingly for the new code and still remains as **VA-1**. The method of stroke timing valves locally was added.

b. Previous Technical Position VA-2, Method of Fail-Safe Testing Valves, has been revised slightly, but still remains **VA-2**.

c. Previous Technical Position VA-3, Method of Full Stroke (Ct) and Backflow (Bt) Exercising valves, was deleted. No methods were discussed in which a position had to be taken.

d. Portions of previous Technical Position VA-4, Determining limiting values of full-stroke times for Power-Operated Valves, portions of Previous Relief Request VR-20, which dealt with establishing Acceptance Criteria, and previous relief request VR-12, concerning fast-acting valves, have been reviewed, and incorporated into new Technical Position **VA-3**, Method of Establishing Acceptance Criteria for Power-Operated Valves.

e. Previous Technical Position VA-05, concerning the exercising of CC manual valves at a U-2 Cold Shutdown Frequency, has been moved to **ROJ-3**, has been slightly revised, and now establishes the exercising frequency at U-2 Refueling Outages.

f. Previous VA-06, Stroke Time Corrective Actions, has been deleted. It had established the use of portions of OM-10, which is clearly what will be used for Byron's second ten year interval.

g. New Technical Position **VA-4**, Method of Position Indication Testing, has been added to discuss Byron's position on the subject.

4. **Section 3.3.2, Cold Shutdown Justifications (not previously mentioned under item #2):**

a. Previous Cold Shutdown Justification VC-4 has been revised slightly and is now Cold Shutdown Justification **VC-10**.

b. Previous Cold Shutdown Justification VC-1 has been moved to Cold Shutdown Justification **VC-21**.

c. Previous Cold Shutdown Justification VC-2, containing the closure testing of the 1/2CV8355A-D and the 1/2CV8368A-D valves, has been split up. The 1/2CV8355A-D valves have been moved to Cold Shutdown Justification **VC-22**. The 1/2CV8368A-D valves have been moved to Refueling Outage Justification **ROJ-12**.

d. Previous Cold Shutdown Justification VC-3 has been moved to Cold Shutdown Justification **VC-23**.

5. **Section 3.4.2, Refueling Outage Justifications (not previously mentioned):**

The following Refueling Outage Justifications were created and/or revised, as required, to further support the justification and format of the Refueling Outage Justifications. A refueling outage frequency previously required NRC prior approval, but will not per OM-10, Byron's second interval code.

a. Previous ROJ-1 will remain as **ROJ-1**.

b. Previous ROJ-2 will remain as **ROJ-2.**

c. Previously approved Relief Request VR-16 has been incorporated into **ROJ-4**.

d. Previously approved Relief Request VR-10 has been incorporated into **ROJ-5**.

e. Previously approved Relief Requests VR-3, VR-6, and VR-15C have been incorporated into **ROJ-6**.

f. Previously approved Relief Request VR-15A has been incorporated into **ROJ-7**.

g. Previously approved Relief Request VR-15D has been incorporated into **ROJ-8**.

h. Previously approved Relief Request VR-26 has been incorporated into **ROJ-10**.

i. Previously approved Relief Request VR-27 has been incorporated into **ROJ-11**.

j. Refueling Outage Justification **ROJ-13** is new due to the addition of the 1/2CC9495A-D Check Valves.

6. Section 3.5.2, Relief Requests (not previously mentioned):

a. New Relief Request **VR-1** is proposing a test frequency for tests other than Appendix J leakage tests to be performed at the same frequency as the leakage tests because the testing is completed at the same time in the same surveillance. This would alleviate any problems associated with the Appendix J performance based testing, and the IST more frequent requirements (actual leak test requirements are the same for Appendix J and IST). This pulled some backflow testing of containment isolation check valves, full stroke testing of check valves, and indication testing of solenoid valves out of previous miscellaneous. locations (i.e. portions of previous Relief Requests VR-8, VR-9, VR-10, VR-23, VR-24, and Notes 37, 38, and 39). NRC approval is pending for the second interval.

b. Previous Relief Request VR-31, which combined all the Containment Spray Disassembly Relief Requests, is now **VR-2**. This relief request was submitted in Revision 13b, and NRC approval is pending for the remainder of the first interval. Approval is also pending for the second interval.

c. Previously approved Relief Request VR-17, is now represented in **VR-3**. NRC approval is pending for the second interval.

d. Previously approved VR-19, concerning the backflow test and/or disassembly of the 1/2AF001A/B valves, has been revised moderately and is now covered under **VR-4**. It still represents the disassembly position with the option of utilizing acoustics. This relief request is considered approved per Generic Letter 89-04 for the second interval.

e. Previously approved Relief Request VR-28 is now represented in **VR-5**. This relief request is considered approved per Generic Letter 89-04 for the second interval.

f. Previous Relief Request VR-29 is now represented in **VR-6**. This relief request was submitted in Revision 13a of the First Interval IST Valve Program. The NRC requested additional information, which was provided to them, by a letter in November, 1995. The information in this letter has been incorporated into this relief request. Approval is expected for the remainder of the first interval. NRC approval is pending for the second interval.

g. Previous Relief Request VR-30 is now represented in **VR-7**. This relief request was submitted in revision 13a of the IST Valve Program. Approval is expected for the first interval. NRC approval is pending for the second interval.

h. Previously approved Relief Request VR-13 is now represented in **VR-8**. These Diesel Generator starting air supply valves are not considered to be a part of the IST Program, so this relief request is considered approved for the second interval.

i. Previous Relief Requests VR-7, VR-11, VR-18, and VR-20 were previously deleted. Previous Relief Requests VR-2, VR-2A, VR-4, and VR-25 have or will be deleted assuming the approval of the new Containment Spray relief request.

ATTACHMENT C