



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

March 11, 1994

William T. Russell, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Revision 10 of the Byron Station Inservice Testing Program for  
Pumps; and Revision 12 of the Byron Station Inservice Testing  
Program for Valves

Byron Station Units 1 and 2  
(NPF-37/66; NRC Docket Nos. 50-454/455)

- References:
1. R. J. Barrett letter to T. J. Kovach dated January 31, 1992  
transmitting the SER for Byron's Pump and Valve Program
  2. J. E. Dyer letter to T. J. Kovach dated January 25, 1993  
transmitting the SER for Relief Request VR-4 for Byron Station
  3. J. E. Dyer letter to D. L. Farrar dated 09/14/93 transmitting the  
SER for Braidwood's Pump and Valve Program
  4. D. J. Chrzanowski letter to T. E. Murley dated February 8, 1993  
transmitting Byron's response to the January 31, 1992 SER

Dear Mr. Russell:

Attached for your review and approval are Revision 10 of the IST Pump Program  
and Revision 12 of the IST Valve Program for Byron Station.

### **IST Pump Program**

There are no current commitments prompting the submittal of Revision 10 of the  
IST Pump Program. All IST Pump Program open items identified in Byron's SER  
(Reference 1) were addressed in Byron's response to NRR (Reference 4), which  
included the addition of vendor information to PR-7. In order to keep the program  
up to date, however, results from the January 31, 1992 SER and other

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administrative changes have been incorporated into this revision. The pump tables and relief requests have been changed to reflect the PR-1, PR-2, and PR-7 relief requests addressed in References 1 and 4. In addition, 1SX04P, which has been IST tested in the past, was officially entered into the pump tables.

### **IST Valve Program**

The IST Valve Program revisions are being submitted primarily in response to two open items regarding VR-2 and VR-19 discussed in References 1 and 4. Other items, summarized below, have also been addressed in this revision.

On January 31, 1992, an NRC SER was issued for the Byron Station IST programs which included four open items. All but two of these items (VR-2 and VR-19) were addressed in a previous response to NRR in Reference 4. Per Reference 1, VR-2, concerning the testing of the CS020 check valves, was approved "provided the licensee complies with the GL 89-04, Position 2 guidelines...". The NRC also stated that "the licensee should actively investigate the use of non-intrusive diagnostic techniques to demonstrate that these valves exercise open during flow testing". At the time of Byron's response (Reference 4), Braidwood had already submitted a variation of this relief request. In an effort to conserve time by eliminating the need for two independent reviews, Byron requested to defer responding to the VR-2 issue until after the issuance of Braidwood's SER, which was subsequently issued on September 14, 1993. Similarly, per Reference 1, VR-19, concerning the backflow test for the AF001 check valves was approved, however, the NRC stated that "the licensee should actively investigate the use of non-intrusive diagnostic techniques to demonstrate that these valves will close upon cessation or reversal of flow." Braidwood had already submitted a relief request including non-intrusive diagnostic techniques. Byron, again, requested to defer response to this issue until after issuance of the Braidwood SER.

Revision 12 to Byron's IST Valve program includes Byron's approved VR-2 (per Reference 1), which is contingent upon following the guidelines outlined in GL 89-04, Position 2. Upon further review with Braidwood, it was determined that non-intrusive techniques are not possible. Rather than revising the current VR-2, draft VR-2A has also been submitted, which extends the frequency for disassembly and inspection to once every five years in conjunction with the eductor Technical Specification flow test. The NRC denied Braidwood's VR-2 in their latest SER (Reference 3) as additional information was requested. Braidwood subsequently supplied the NRC with the requested information in their response to the September 1993 SER. Note that the Byron Relief Request VR-2A contained in this submittal is the same as Braidwood's VR-2. Byron requests that relief request VR-2A be reviewed and approved by 8/20/94, prior to Byron's next

refueling outage. VR-19 has been revised in conjunction with Braidwood to include acoustic diagnostic techniques to verify closure of the AF001 check valves. Success with the acoustic techniques has only been shown during the 18 month dual pump injection test which is performed at the beginning of each refueling outage. If the results of the acoustic evaluation are questionable, the valve will then be scheduled for disassembly and internal visual inspection during that outage as was approved in Reference 1 for VR-19. Again, Braidwood and Byron will be submitting the same relief request, anticipating a potential combined program submittal in 1995.

In addition to the changes listed above, this revision to the IST Valve Program also includes items arising from the Braidwood NRC inspection in May, 1993 and the Byron NRC inspection in January, 1994. The Braidwood and Byron inspections prompted the addition of a few valves to the Program that were determined to satisfy the IST scope requirements and which should be IST tested. Also, the concern of stroke timing valves in both directions for valves that have an active IST safety function in both directions is addressed. A review of the valves currently in the IST program has been completed in an expedited manner, as requested by the NRC inspectors. Valves which will be stroked in both directions have been identified in this program revision.

Byron and Braidwood have recognized the fact that a scope review was needed to incorporate new interpretations of the code and regulatory requirements to ensure that all the necessary pumps and valves are being IST tested. A few valves are being added to the Program that have been identified by Byron/Braidwood as satisfying the OM-10 scope requirements for IST. The ongoing scope review by Byron and Braidwood should be completed by June 30, 1994.

Additional items included in the IST Valve Program Revision 12 are as follows. Technical Approach and Positions VA-05 and VA-06 have been added. VA-05 justifies exercising the U-0 CC Heat Exchanger and Pump isolation/separation manual valves on a U-2 Cold Shutdown frequency. VA-06 addresses stroke time corrective actions. Byron will be converting from the IWV corrective actions to the OM-10 corrective actions in preparation for Byron's ten year update in 1995. Additional relief requests added in this revision include draft relief requests VR-15A-D, which were included in an effort to bring Byron's Program closer to Braidwood's IST Program, in anticipation of the potential 1995 Byron/Braidwood combined submittal. VR-20 is also being submitted consistent with GL 89-04. Other miscellaneous editorial and administrative changes have also been incorporated.

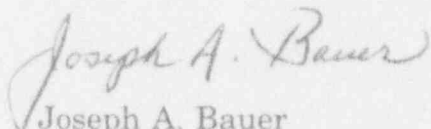
W. T. Russell

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March 11, 1994

Please direct any comments or questions to this office.

Respectfully,

A handwritten signature in cursive script that reads "Joseph A. Bauer".

Joseph A. Bauer  
Nuclear Licensing Administrator

JAB/gp

Attachments

cc: G. F. Dick, Byron Project Manager - NRR  
H. Peterson, SRI - Byron  
B. Clayton, Branch Chief - Region III  
Office of Nuclear Facility Safety - IDNS

## **Byron Station**

### **Inservice Testing Program for Pumps Revision 10 and Inservice Testing Program for Valves Revision 12**

#### **Index**

Attachment A	Summary of Changes for Revision 10 of the Inservice Testing Program Plan for Pumps
Attachment B	Summary of Changes for Revision 12 of the Inservice Testing Program Plan for Valves
Section 3.0	Inservice Testing Program Plan for Pumps
Section 4.0	Inservice Testing Program Plan for Valves

## ATTACHMENT A

### Summary of Changes for Revision 10 of the Inservice Testing Program Plan for Pumps

#### Section 3.0 - Table of Contents

1. Revised to reflect program changes.

#### Section 3.1 - Program Description

1. No change.

#### Section 3.2 - Program References

1. Added SER (Safety Evaluation Report) dated January 31, 1992.
2. Added Byron Letter 93-0047, SER 01/31/92 response.

#### Section 3.3 - Pump Tables

##### A. Pump Table Description

1. No change.

##### B. Pump Tables

1. 1/2AF01PA, 1/2AF01PB, 1/2CV01PA, 1/2CV01PB, 1/2SI01PA, 1/2SI01PB, 1/2SX01PA, 1/2SX01PB, 2SX04P: changed "Yes" under bearing temperature column to PR-2, due to the approval of PR-2, which includes all pumps.
2. Deleted Note 6 from 2SX04P pump.
3. Added 1SX04P pump to table.
4. Under Vibration column, changed PR-1 to PR-7 for the 0SX02PA and 0SX02PB pumps due to the approval of PR-7.

#### Section 3.4 - Pump Notes

1. Deleted Note 6 due to 1SX04P implementation.

#### Section 3.5 - Pump Technical Approaches and Positions

1. No change.

**Section 3.6 - Pump Relief Requests**

1. PR-1: Deleted PR-1 from Rev 9 and replaced with the Draft PR-1 from Rev 9a as it was granted per SER 01/31/92 provided all of OM-6 vibration requirements are complied with. Byron is in full compliance with the exception of the SX pumps covered under PR-7.
2. PR-2: Deleted PR-02 from Rev 9 and replaced with the Draft PR-2 from Rev 9 as it was granted per SER 01/31/92.



## ATTACHMENT B

### Summary of Changes for Revision 12 of the Inservice Testing Program Plan for Valves

#### Section 4.0 - Table of Contents

1. Deleted Note 32.
2. Added Notes 43 through 46.
3. Added Technical Approach and Position VA-05 and VA-06.
4. Added Draft VR-2A, Draft VR-15A-D and VR-25.
5. Deleted the "Draft" associated with VR-20.

#### Section 4.1 - Program Description

1. No change.

#### Section 4.2 - Program References

1. Added references to SERs dated August 16, 1991, January 31, 1992, and January 25, 1993.

#### Section 4.3 - Valve Tables

##### A. Valve Table Description

1. Stroke direction clarified to include the possibility of more than one safety function.

##### B. Valve Tables

1. 1/2AF014A-H - changed test mode for Bt test from OP/RR to CS per NRC inspection at Braidwood.
2. 1/2CC9415 - added valves to program to stroke test at cold shutdown in both directions per Note 44 and Byron Inspection.
3. 1/2CC9437A/B - added open direction to St; added Ft to test method along with Technical Position 2 due to typo; deleted "Passive" under Remarks.
4. 1/2CC9463A/B - changed test mode for Ct from CS to OP.
5. 0CC9464 - changed test mode for Ct from CS to OP.
6. 1/2CC9459B; 1/2CC9467B - added manual valves to program per NRC inspection at Byron to cycle in both directions on a U-2 cold shutdown frequency.
7. 1/2CC9473A/B - added closed direction to St
8. 1/2CC9486 - added RR test mode for Lt (typo).



B. Valve Tables (continued)

9. 1/2CC9518 - added CS test mode for Bt (typo); removed "Passive" from remarks.
10. 1/2CC9534 - added CS test mode for Bt (typo); removed "Passive" from remarks.
11. 1/2CS007A/B - added closed direction to St.
12. 1/2CS011A/B - added Ct at RR per VR-25 and Xt at OP.
13. 1/2CS019A/B - added closed direction to St.
14. 1/2CS020A/B - added Bt at OP.
15. 1/2CV112D/E - added closed direction to St.
16. 1/2CV8106 - removed open direction to St.
17. 1/2CV8110 - added open direction to St.
18. 1/2CV8111 - added open direction to St.
19. 1/2CV8113 - added RR test mode for Lt (typo); added open direction to St; removed "Passive" from remarks.
20. 1/2CV8114 - added open direction to St.
21. 1/2CV8116 - added open direction to St.
22. 1/2CV8152 - added open direction to St.
23. 1/2CV8160 - added open direction to St.
24. 1/2CV8440 - added these valves to program based on Westinghouse letter and UFSAR change to active.
25. 1/2CV8480A - added Technical Position 3 for Bt test (Typo).
26. 1/2FW036A-D - added these valves to program per UFSAR change to active.
27. 1/2FW079A-D - added these valves to program per UFSAR change to active.
28. 1/2IA066 - added open direction to St.
29. 1/2IA091 - added open direction and Ct; removed "Passive" from remarks.
30. 1/2MS013A-D - added closed direction to Rt.
31. 1/2MS014A-D - added closed direction to Rt.
32. 1/2MS015A-D - added closed direction to Rt.
33. 1/2MS015D - changed open normal position to closed (typo).
34. 1/2MS016A-D - added closed direction to Rt.
35. 1/2MS017A-D - added closed direction to Rt.
36. 1/2MS018A-D - added open direction to St.
37. 1/2MS019A-D - added these manual valves to program based on scope review.
38. 1/2OG057A - added the open direction to St.
39. 1/2OG079 - added the open direction to St.
40. 1/2OG080 - added the open direction to St.
41. 1/2OG081 - added the open direction to St.
42. 1/2OG082 - added the open direction to St.
43. 1/2OG083 - added the open direction to St.
44. 1/2OG084 - added the open direction to St.

B. Valve Tables (continued)

45. 1/2OG085 - added the open direction to St.
46. 1/2PS228A/B - added the open direction to St.
47. 1/2PS229A/B - added the open direction to St.
48. 1/2PS230A/B - added the open direction to St.
49. 1/2RC014A-D - removed open normal position and one of the two open stroke directions (typo).
50. 1/2RH8701A/B - added closed direction to St.
51. 1/2RH8702A/B - added closed direction to St.
52. 1/2RH8708A/B - added closed direction to Rt.
53. 1/2RH8705A/B - deleted normally open position; removed "Passive" from remarks.
54. 1/2RH8716A/B - added these valves to the program per NRC inspection at Braidwood.
55. 1/2RH610 - added valves to program per NRC inspection at Byron.
56. 1/2RH611 - added valves to program per NRC inspection at Byron.
57. 1/2RY075 - added valves to table per scope review.
58. 1/2RY455A, 1/2RY456 - added closed direction to St; changed Ft test mode to CS.
59. 1/2RY8010A,B,C - added closed direction to Rt.
60. 1/2RY8046 - add RR test mode for Lt (typo) per VR-1.
61. 1/2SI8801A/B - added close direction to St.
62. 1/2SI8802A/B - added close direction to St.
63. 1/2SI8806 - added close direction to St.
64. 1/2SI8809A - added open direction to St.
65. 1/2SI8809B - added open direction to St.
66. 1/2SI8811A/B - added close direction to St.
67. 1/2SI8821A/B - added open direction to St.
68. 1/2SI8835 - added open direction to St.
69. 1/2SI8840 - added close direction to St.
70. 1/2SI8841A/B - changed Ct test mode from RR to CS per VR-15; deleted Xt.
71. 1/2SI8905C/D - changed Ct test mode from CS to RR per VR-15 (typo).
72. 1/2SI8922A/B - changed test mode for Ct from CS to RR per VR-3.
73. 1/2SI8924 - added open direction to St.
74. 1/2SI8948A-D - change Ct test mode from RR to CS per note 42.
75. 1/2SI8949A,B,C,D - add CS for Bt per notes 6 and 40; change Ct test mode from CS to RR per VR-15.
76. 1/2SI8958A/B - added Bt at OP per Note 27.
77. 1/2SX016A/B - added close direction to St; delete "Passive" from remarks.
78. 1/2SX027A/B - added close direction to St; delete "Passive" from remarks.
79. 0SX028A/B - added Bt at OP per scope review.
80. 1/2SX116A - added these check valves based on NRC inspection at Byron.

**B. Valve Tables (continued)**

81. 1/2SX116B - added these check valves based on NRC inspection at Byron.
82. 0SX007 - added control valve per review of NRC inspection at Byron.
83. 0SX146 - added isolation valve per review of NRC inspection at Byron.
84. 0SX147 - added isolation valve per review of NRC inspection at Byron.
85. 1/2SX174 - added valves to the table per scope review.
86. 1/2WM191 - removed Bt at CS.

**Section 4.4 - Valve Notes**

1. Footnote added to Note 6 regarding RH8705 valves not being PIV.
2. Changed Note 27 to reflect SI8958 closure function.
3. Changed Note 28 to reflect CV8440 closure testing in cold shutdowns when all four RCPs are off.
4. Deleted last sentence of Note 30 and added "during unit operation".
5. Deleted Note 32.
6. Added Note 43 regarding cold shutdown testing of the RH8716s.
7. Added Note 44 regarding CC9415 CS testing.
8. Added Note 45 regarding FW036A-D testing at CS.
9. Added Note 46 regarding FW079A-D testing at CS.

**Section 4.5 - Valve Technical Approaches and Positions**

1. Added VA-05 regarding the testing of CC9459B and CC9467B manual valves on a U-2 cold shutdown frequency.
2. Added VA-06 regarding stroke time corrective actions.

**Section 4.6 - Valve Relief Requests**

1. The approval status of each relief request was updated to show the current approval status as necessary..
2. VR-1 - Added RY075 valves per scope review.
3. VR-2 - This relief has been approved per SER 1/31/92 provided the licensee complies with GL 89-04, position 2. Hence, a partial stroke will be performed following the disassembly.

**Section 4.6 - Valve Relief Requests (continued)**

4. Draft VR-2a - Added in anticipation of a joint program with Braidwood in the future as they are also submitting this relief request. Review and approval is requested by 8/20/94, prior to Byron's next refueling outage. Approved VR-2 will be utilized in the interim.
5. Draft VR-15A through VR-15D - Braidwood has approval. Byron is submitting the same relief requests in anticipation of a Byron/Braidwood combined submittal in 1995. However, these are new submittals for Byron and have not specifically been approved for Byron. Approved VR-15 will be utilized in the interim.  
  
15A - CV cold leg injection check valves.  
15B - Pressure relief check valves.  
15C - SI cold leg and SI/RH hot leg injection check valves.  
15D - SI/RH hot leg injection check valves.
6. VR-19 revised to reflect Byron's SER dated January 31, 1992 and agreement to respond following Braidwood's SER dated Sept. 14, 1993. Byron's revised VR-19 includes acoustically testing the AF001 valves for closure during the 18 month dual pump injection test rather than disassembling them. However, if the results of acoustic tests are abnormal or questionable, the valve will be scheduled for disassembly and internal visual inspection.
7. VR-25 - Added this relief request for the CS011s based on the the reasons given in the request.