

Commonwealth Edison Company
Byron Generating Station
4450 North German Church Road
Byron, IL 61010-9794
Tel 815-234-5441



August 12, 1996

LTR: BYRON-96-0222
FILE: 3.11.0321

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Second 10 Year Inservice Inspection Program

Byron Nuclear Power Station, Units 1 and 2
Facility Operating Licenses NRC and NPF-66
NRC Docket Nos. 50-454 and 50-454

REFERENCE: (1) Letter from George F. Dick, Jr. (NRC), to D.L. Farrar (ComEd) dated April 3, 1996, transmitting a Request For Additional Information (RAI) regarding the Byron Second 10 Year Inservice Inspection Program.

(2) Letter from M. Lesniak (ComEd) to Document Control Desk (NRC) dated February 23, 1996, transmitting the Byron Station Second 10 Year Inservice Inspection Program.

(3) Letter from K.L. Kofron (ComEd) to Document Control Desk (NRC) dated June 12, 1996, transmitting Byron Station Withdrawal of Relief Request I2R-11.

(4) Letter from George F. Dick, Jr. (NRC), to D.L. Farrar (ComEd) dated June 13, 1996, transmitting a Request For Additional Information (RAI) regarding the Byron Second 10 Year Inservice Inspection Program.

(5) Letter from R.A. Capra (NRC) to D.L. Farrar (ComEd) dated March 14, 1995, transmitting SER approving Relief Request HR-1 and HR-2.

In Reference (1), NRC requested additional information regarding Relief Request I2R-11 submitted by Commonwealth Edison (ComEd) Byron Station in Reference (2). ComEd withdrew this Relief Request in Reference (3). Revision 1 of Relief Request I2R-11 is included in Attachment 2. This revision addresses the issue raised in Reference (1).

In Reference (4), NRC requested additional information regarding various aspects of the Second 10 Year Inservice Inspection Program (Program Plan) submitted by Byron Station in Reference (2). The answers to the specific questions raised in the RAI are contained in Attachment 1.

In conjunction with the responses to References (1) and (4), ComEd has revised the Byron Station Units 1 & 2 Program Plan for the second 10 year interval. The attached Revision 1 pages are intended to replace the original, Revision 0 pages previously provided.

9608190028 960812
PDR ADDCK 05000454
G PDR

1047%

Byron Ltr: 96-0222
August 12, 1996
Page 2

The revised pages of Sections 1.0 through 4.0 of the Program Plan are included in Attachment 2. Revisions to Appendices C and F are included in Attachments 3 and 4, respectively. Changes to Appendices C and F have been made in response to Reference (4). In addition, other editorial changes have been made to these Appendices for update purposes. All changes have been identified by a revision bar in the right-hand margin, as well as noting "Rev. 1" in the footer of the affected pages.

ComEd requests that the Program Plan for Byron Unit 2 be reviewed on or after August 22, 1996. As of this date, the 1989 Edition of Section XI will be the "latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a one year prior to the start of the interval..." This request is based on a commercial operation date for Byron Unit 2 of August 22, 1987. This issue was identified in Reference (2) Item 2.C.

Although ComEd currently has approval for use of Code Cases N-416-1 and N-498-1 until the Cases are incorporated into Regulatory Guide 1.147 (Reference 5), a relief request to employ these Cases for the Second Interval is included in this revision package, pursuant to Reference (2) Item 2.D. In addition, relief requests to employ Code Cases N-509 and N-521 are included in Revision 1 of the Program Plan.

Please address any comments or questions regarding this matter to Marcia Lesniak, Nuclear Licensing Administrator, 708-663-6484.

Sincerely,

David B Wozniak ^{for}

K.L. Kofron
Station Manager
Byron Nuclear Power Station

KLK/GC/rp

Attachments

cc: A. B. Beach, NRC Regional Administrator, RIII
G. F. Dick, Jr., Byron Project manager, NRR
S. Burgess, Senior Resident Inspector, Byron
Office of Nuclear Safety, IDNS
Michael T. Anderson, INEL

ATTACHMENT 1
RAI QUESTIONS AND RESPONSES

- A. In Appendix C of the Program Plan, under notes, it is stated that credit for examination of Category B-F welds is being taken to accomplish the 25 percent sampling of Category B-J welds as allowed by section XI Interpretation XI-1-83-33, and that 21 Examination Category B-F welds are included in the Examination Category B-J population when calculating that 25 percent examination sample. The presence of dissimilar metal welds in both examination categories can be confusing. However, the interpretation indicated is obsolete and not supported by the direction taken in later editions of the Code. Starting in the 1989 Addenda, dissimilar metal welds associated with the reactor vessel, pressurizer, steam generators, and heat exchangers have been specified as Examination Category B-F welds. All other dissimilar metal welds are included in Examination Category B-J. Using the later Codes as guidance, inclusion of B-F welds in the B-J sample is not permissible. Confirm that the program will be revised so that 25 percent of examination Category B-J welds are scheduled for examination without inclusion of B-F welds in the B-J sample population.

RESPONSE:

Based on the recommended NRC guidance on this issue, ComEd has revised the ISI Program Plan to ensure 25 percent of examination Category B-J welds are scheduled for examination without inclusion of B-F welds in the B-J sample population. The revised pages are included in Attachments 3 and 4. The revisions are as follows:

1. Appendix C, page C-3, Item M: Deleted Note 2.
 2. Appendix C, pages C-21 to C-23, C-58 to C-68, C-70 to C-75, C-78, and C-80 to C-81: Deleted Note 2.
 3. Appendix C, pages C-58, C-60, C-61, C-67, C-71, C-72, C-75, C-79, and C-81: Added a total of 16 scheduled examinations to revise the sampling of Category B-J welds to 25%.
 4. Appendix F, page F-3, Item M: Deleted Note 2.
 5. Appendix F, pages F-21 to F-23, F-58 to F-61, F-63 to F-67, F-71 to F-76, F-79 to F-81: Deleted Note 2.
 6. Appendix F, pages F-58, F-60, F-65, F-67, F-71, F-72, F-75, F-79, and F-81: Added a total of 17 scheduled examinations to revise the sampling of Category B-J welds to 25%.
- B. Effective September 8, 1992, regulations were issued regarding the augmented examination of reactor vessels. As a result of these regulations, all licensees must augment their reactor vessel examinations by implementing once, as part of the inservice inspection interval in effect on September 8, 1992, the examination requirements for reactor vessel shell welds specified in Item B1.10 of Examination Category B-A. In addition, all previously

granted relief for Item B1.10, Examination Category B-A, for the interval in effect on September 8, 1992, is revoked by the new regulation. For licensees with fewer than 40 months remaining in the interval on the effective date, deferral of the augmented examination is permissible with the conditions stated in the regulations.

In the February 23, 1996 submittal, it is stated that the augmented reactor pressure vessel (RPV) examinations will be completed by the end of the first 10-year interval. Confirm that at least 90 percent of each RPV shell weld (Items B1.11 and B1.12) will be/has been examined during the first 10-year interval.

RESPONSE:

All Category B-A, Item No. B1.11 welds in Byron Unit 1 were examined during the recent ten year refueling outage. At least ninety percent (90%) coverage of each weld was achieved except for weld RPVC-WR29. Relief Request I2R-01 includes a detailed discussion of the limitations associated with the volumetric examination of RPVC-29 (included in Attachment 2). Similiar limitations are expected for the Byron Unit 2 examination of this weld, as discussed in I2R-01. The reactor vessels at Byron Station do not include Category B-A, Item No. B1.12 welds.

- C. Inservice examination of components must comply with the requirements in the latest edition and addenda of the code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the start of the 120 month interval. In the February 23, 1996 submittal, it is stated that the Unit 2 Program Plan is being developed using the 1989 Edition of Section XI as a "baseline" in anticipation of a rule change in the regulations. Considering the projected interval start date of August 22, 1997, for Unit 2, the Code-of-record can not be established and evaluation of the Unit 2 Program Plan is premature unless a specific exemption to the regulations to use the 1989 Edition is requested and justified. In addition, based on the licensee's stated intent to use the 1989 Code as a "baseline", it is not clear how the Unit 2 Program Plan was prepared. Provide clarification regarding the Code-of-record for Unit 2 during the second 10-year interval. If the licensee's intent is to use the same Code edition for both units, a specific request for authorization should be submitted in accordance with the regulations.

RESPONSE:

Page 2 of the revised ISI Program Plan addresses this issue (Attachment 2). As stated, the 1989 Edition of Section XI will be the "Code-of-record", based on a projected interval start date of August 22, 1997 and the current status of 10 CFR 50.55a rule making. ComEd requests that the Program Plan for Byron Unit 2 be reviewed on or after August 22, 1996. As of this date, the 1989 Edition of Section XI will be the "latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a one year prior to the start of the interval..." This request is based on a commercial operation date for Byron Unit 2 of August 22, 1987.

- D. Specific Code Cases may be used when approved for general use by incorporation into Regulatory Guide (RG) 1.147, Inservice Inspection Code Case Acceptability -- ASME Section XI, Division 1, or if authorized by the NRC staff in accordance with 10 CFR 50.55a(a)(3). The licensee's Program Plan references a number of Code Cases that have not yet been incorporated into the RG, but, as stated by the licensee, are expected to be contained in RG 1.147, Revision 12. Use of these Code Cases is not allowable without specific relief since conditions may be imposed by RG 1.147. Therefore, to use these Code Cases during the second 10-year ISI interval, authorization by the NRC staff is required. Clarify the intent regarding the use of unapproved Code Cases and submit a request for authorization for each applicable Code Case.

RESPONSE:

At the time of submittal of the second interval Program Plan it was projected that code cases N-416-1, N-498-1, N-509 and N-521 would be incorporated into Regulatory Guide 1.147 prior to the implementation date. As noted on pages 4 and 5 of the revised ISI Program Plan (Attachment 2), Relief Requests I2R-15, I2R-16, I2R-17, and I2R-18 have now been included to request authorization to employ Code Cases N-416-1, N-498-1, N-509 and N-521, respectively, during the second 10-year ISI interval.

- E. In Appendix C., Table Description, NDE method symbols used in the tables are defined. Under visual examinations, VT-1, VT-2, VT-3 and VIS are listed. "VIS" is defined as a visual augmented examination. What are the qualifications of the VIS inspection personnel? Provide a technical discussion describing the visual inspection procedures used for augmented examinations and the qualifications of the inspectors. If VIS inspectors are not certified or qualified to meet the requirements of VT-1, VT-2, or VT-3 examiners, provide justification for the relaxation in these requirements.

RESPONSE:

ComEd is revising appropriate Byron NDE procedures to employ a VT-3 certified examiner to perform the visual examinations of the Reactor Coolant Pump Flywheels. Accordingly, ComEd has revised the following portions of the ISI Program Plan (Attachments 3 and 4):

1. Appendix C, page C-3, Item J, NDE Method: Deleted VIS abbreviation.
2. Appendix C, page C-410: Revised VIS to VT-3 in the NDE Method column.
3. Appendix F, page F-3, Item J, NDE Method: Deleted VIS abbreviation.
4. Appendix F, page F-396: Revised VIS to VT-3 in the NDE Method column.

- F. Request for Relief I2R-01 addresses limited coverage for several RPV welds. However, in some cases, coverage estimates are not explicitly stated. For the circumferential shell welds (RPVC-WR19), what is the estimated coverage from the shell course side? For the shell-to-flange welds (RPVC-WR7), can 100 percent coverage for transverse reflectors be achieved in two directions? If not, provide an estimate of the coverage.

RESPONSE:

Relief Request I2R-01 has been revised to provide detailed information regarding the limited examination of Reactor Vessel Welds RPVC-WR-16 and RPVC-WR29. The Reactor Vessel shell-to-flange weld, RPVC-WR7, was examined completely (100% of Code required weld volume) during the recent ten year refueling outage. Accordingly, the limited examination relief for this weld was deleted from I2R-01. Revised Relief Request I2R-01 is included in Attachment 2.

- G. Request for Relief I2R-05 proposes a "best-effort" UT examination of one inlet and one outlet nozzle-to-vessel weld in the residual heat removal heat exchanger. Describe the proposed best-effort examination and provide an estimate of the Code-required coverage that can be obtained.

RESPONSE:

Relief Request I2R-05 has been revised to address these questions (Attachment 2). This relief request is consistent with provisions of the NRC's Safety Evaluation Report dated February 29, 1996, which granted relief for Interval 1, per Relief Request NR-18.

- H. Request for Relief I2R-07 requests approval to examine thin-walled ($<3/8"$) Class 2 piping welds. Based on review of the examination tables contained in the Program Plan, volumetric examinations have been shifted to piping $<3/8"$ nominal thickness without a reduction in the overall volumetric sample size of 7.5 percent. However, it appears that the surface examination sample has been reduced significantly. Verify that a surface examination sample of at least 7.5 percent of the Class 2 weld population will be examined during the second 10-year interval.

RESPONSE:

ComEd acknowledges the discrepancy in the surface examination sampling proposed in this relief request and has revised I2R-07 to include a surface examination for welds with nominal thickness less than $3/8$ inches (Attachment 2). In addition, Appendices C and F have been revised to reflect the surface examination requirement for these welds (Attachments 3 and 4).

- I. Request for Relief I2R-09 proposes to examine the saddle plate welds in lieu of examination of circumferential branch connection welds. Provide the staff with a list of the subject branch connections and the unique identifiers for these welds.

RESPONSE:

A list of the subject welds is included in Tables 1 and 2 of I2R-09 (Attachment 2).

- J. Request for Relief I2R-14 seeks relief from the Code-required pressure testing for Diesel Generator subsystem components (i.e., Starting Air, Jacket Cooling Water, and Lube Oil subsystems). The proposed alternative is to use the surveillance requirements of the Technical Specifications; however, the specifics of this alternative are not clear. In addition, the burden associated with the Code requirements is not specified. Provide a technical discussion describing the proposed alternative and how it will provide an acceptable level of quality and safety, and/or describe the burden associated with performing the Code-required pressure tests.

RESPONSE:

ComEd has reviewed Relief Request I2R-14 further and determined that it may be affected by pending procedure revisions and revisions to the Technical Specifications through the Improved Technical Specification (ITS) effort. Based on this review, this relief request has been withdrawn from the program plan submittal.

- K. Verify that there are no additional relief requests, other than those in the February 23, 1996 submittal. If additional relief requests are required, the licenses should submit them for staff review.

RESPONSE:

Additional relief requests have been provided for code cases N-416-1, N-498-1, N-509 and N-521 per response to RAI question D. These relief requests are included in attachment 2). No other relief requests are required at this writing.