



Commonwealth Edison

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Address Reply to: Post Office Box 767
Chicago, Illinois 60690

June 10, 1985

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Station Unit 1
I.E. Inspection Report
No. 50-454/85-008

Reference (a): May 3, 1985 letter from R. L. Spessard
to Cordell Reed.

Dear Mr. Keppler:

Reference (a) provided the results of inspection by Messrs. VanDenburgh and Ring and Ms. McCormick-Barger from February 20 through April 18, 1985. During these inspections, certain activities appeared to be not in compliance with NRC requirements. Attachment A to this letter contains Commonwealth Edison's response to the Notice of Violation appended to reference (a).

Our reviews of Items 1 and 2 in the Notice of Violation provided in reference (a) have not concluded that those items were correctly categorized as noncompliance with NRC regulations. The bases for our conclusions are detailed in the attached report, and we request your reconsideration in light of the information we have provided. In particular, examples (a) and (b) in Item 1 of the Notice of Violation raise the very important issue of whether it is permissible and appropriate to proceed in the testing program without repeating a test when the results deviate from test acceptance criteria. We believe that a proper review and evaluation, with supporting documentation, provides an appropriate basis for nevertheless accepting the test, and that this practice is consistent with good quality assurance principles and Criterion XI of 10 CFR 50, Appendix B. Because this issue will likely recur as we complete our testing program, we request that particular attention be given to it.

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J. G. Keppler

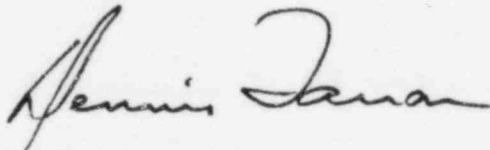
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June 10, 1985

On May 31, 1985, Commonwealth Edison was granted a seven day extension on the due date for the response to the Notice of Violation.

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

Very truly yours,

A handwritten signature in dark ink, appearing to read "Dennis L. Farrar". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

Dennis L. Farrar
Director of Nuclear Licensing

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Attachment

cc: Byron Resident Inspector

0204K

ATTACHMENT A

VIOLATION 1a

10 CFR 50, Appendix B, Criterion XI as implemented by the Commonwealth Edison Quality Assurance Manual, Quality Requirement 11.0 and the Byron Startup Manual requires that a test program be established. This program is required to demonstrate that systems will perform satisfactorily in service and is required to be performed in accordance with test procedures which incorporate the acceptance limits of the design documents. Furthermore, the test results are required to be documented and evaluated in order to verify that the test requirements have been satisfied.

Contrary to the above, the following example of inadequate evaluation and documentation of test results was identified:

The licensee approved the results of startup test NR 32.33 which obtained values for the reactivity worth of Rod Control Cluster Assembly F-10 and Shutdown Bank A in excess of its acceptance criteria and in a test method the licensee determined to be inaccurate. Therefore, the licensee did not verify the control rod reactivity worths as specified in the FSAR. Furthermore, the licensee proceeded to a higher power level plateau without obtaining, evaluating and approving the results of all testing required to be performed in the low power test sequence as required by the FSAR.

RESPONSE

The results of startup test 2.32.33 established the measured reactivity worth of rod control cluster assembly (RCCA) F-10 and Shutdown Bank A as being outside the expected values stated in the acceptance criteria of the test. Although these results did not meet the specific acceptance criteria, the test was approved based upon a documented technical evaluation and resolution of the data.

We interpret the last sentence of Criterion XI of 10 CFR 50, Appendix B to allow for this provided that a written technical justification substantiates such action. This is consistent with Criterion XV of 10 CFR 50, Appendix B which allows nonconforming items to be reviewed and accepted for use in accordance with documented procedures.

We also acknowledge that the language of the Byron Startup Manual could be interpreted to preclude approving tests whose results do not meet acceptance criteria. However, our intent when creating this document was to provide the necessary latitude for taking that course of action when justified. This is in accordance with the Project Engineering Department's responsibility and authority to establish test acceptance criteria as stated in Section 4.3.3 of the Byron Startup Manual. Nevertheless, the Byron Startup Manual will be revised to more clearly indicate the flexibility that was intended and is implicit in our interpretation of its current language.

The test method of startup test 2.32.33 is accurate for establishing the parameters actually measured, however it is not feasible to directly and completely measure all of the parameters in the Westinghouse Nuclear Design Report. The control rod reactivity worths specified in the Westinghouse Nuclear Design Report, and referenced in the FSAR, are computer-predicted values. The feasibility of verifying these values by direct measurement was not a major consideration when the design report was written. Given the testing limitations encountered on Byron Unit 1, the test abstract in the FSAR is being revised to allow for this situation.

The reactivity worth of RCCA F-10 was determined by a combination of direct measurement and analysis based on boron test data. This resulted in a showing of the conservatism in the Nuclear Design Report, although the test acceptance criterion was not specifically met.

A direct measurement of the full reactivity worth of Shutdown Bank A, as required by the test acceptance criteria, was not obtained due to testing and safety considerations. However, the partial reactivity worth, which was measured, was used in an analysis of available shutdown margin. This analysis showed adequate shutdown margin even with the measured, partial reactivity worth of Shutdown Bank A.

The commitment in Section 14.2.5 of the FSAR to evaluate and approve the data at each power test plateau before increasing power level was fulfilled in that test 2.32.33 was reviewed and approved on February 21, 1985 and Unit 1 proceeded towards the next power level plateau on February 24, 1985.

Based on the foregoing, Commonwealth Edison requests that the NRC reconsider whether this is an example of inadequate evaluation and documentation of test results.

VIOLATION 1b

10 CFR 50, Appendix B, Criterion XI as implemented by the Commonwealth Edison Quality Assurance Manual, Quality Requirement 11.0 and the Byron Startup Manual requires that a test program be established. This test program is required to demonstrate that systems will perform satisfactorily in service and is required to be performed in accordance with test procedures which incorporate the acceptance limits of the design documents. Furthermore, the test results are required to be documented and evaluated in order to verify that the test requirements have been satisfied.

Contrary to the above, the following example of inadequate evaluation and documentation of test results was identified.

The licensee approved the results of startup test RD 64.33 with a value for the reactivity worth of Control Bank D in excess of its acceptance criteria without completing an adequate evaluation.

RESPONSE

The results of startup test 2.64.33 established the measured boron endpoint for Control Bank D as being outside the expected value stated in the acceptance criteria of the test. The measured value was more conservative than the acceptance criteria required and therefore the test was approved. The test approval was supported by a documented technical evaluation that included the rationale for accepting results that varied from acceptance criteria. The evaluation necessary to support the conclusion reached was complete.

The issue within this example, as in the previous example, involves approving a test whose results do not meet the test acceptance criteria. As noted in our response to example 1a, we understand the NRC's concern regarding this action. However, we believe our interpretation of 10 CFR 50, Appendix B and our discussion of the intent of the Byron Startup Manual address this concern.

Based on the explanation provided above, Commonwealth Edison requests that the NRC reconsider whether this is an example of inadequate evaluation and documentation of test results.

VIOLATION 1c

10 CFR 50, Appendix B, Criterion XI as implemented by the Commonwealth Edison Quality Assurance Manual, Quality Requirement 11.0 and the Byron Startup Manual requires that a test program be established. This test program is required to demonstrate that systems will perform in accordance with test procedures which incorporate the acceptance limits of the design documents. Furthermore, the test results are required to be documented and evaluated in order to verify that the test requirements have been satisfied.

Contrary to the above, the following example of inadequate evaluation and documentation of test results was identified:

The licensee approved the results of startup test RD 64.32 with data which exceeded the acceptance criteria of the test and which had not been specifically evaluated and accepted.

RESPONSE

We believe this example has very minimal safety significance and, as noted in the Inspection Report attached to reference (a), the NRC agrees. For this reason, Commonwealth Edison requests that the NRC consider reclassifying this example of inadequate evaluation and documentation of test results to a Severity Level V violation.

CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

The results of startup test 2.64.32 which exceeded the test acceptance criteria have been specifically evaluated and accepted. This has been documented in a letter from the Project Engineering Department dated February 25, 1985.

CORRECTIVE ACTION TO AVOID FURTHER NONCOMPLIANCE

The Byron Startup Manual is being revised to more clearly indicate the necessary latitude that was intended for the Project Engineering Department to approve test results that do not meet acceptance criteria, when justified. This revision will include a requirement to provide a documented, specific resolution of data that does not meet acceptance criteria when approving test results.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on February 25, 1985 when the Project Engineering Department issued a letter that documented their specific evaluation and acceptance of the data that exceeded the acceptance criteria.

The Byron Startup Manual will be revised by July 1, 1985 and Project Engineering Department personnel will be made aware of the change by July 19, 1985.

VIOLATION 1d

10 CFR 50, Appendix B, Criterion XI as implemented by the Commonwealth Edison Quality Assurance Manual, Quality Requirement 11.0 and the Byron Startup Manual requires that a test program be established. This test program is required to demonstrate that systems will perform satisfactorily in service and is required to be performed in accordance with test procedures which incorporate the acceptance limits of the design documents. Furthermore, the test results are required to be documented and evaluated in order to verify that the test requirements have been satisfied.

Contrary to the above, the following example of inadequate evaluation and documentation of test results was identified:

The licensee approved the results of startup test NR 52.35D with an incorrect data calculation and test evaluation.

RESPONSE

The measured data from startup test 2.52.35D demonstrated approximately a two decade overlap between the source range and intermediate range nuclear instrumentation channels. The test acceptance criterion required a one and one-half decade overlap and since this was met, the test was approved. The Project Engineering Department did not rely on extrapolated data as the basis for their conclusion that the acceptance criterion was met. This was a correct test evaluation.

Therefore, Commonwealth Edison requests that the NRC reconsider whether this is an example of inadequate evaluation and documentation of test results.

VIOLATION 2

10 CFR 50, Appendix B, Criterion V, requires that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstance, and Criterion VI requires that measures be established to control the issuance of procedures which prescribe activities affecting quality and that the measures assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel.

Contrary to the above, the licensee modified startup test AP 5.30 in such a manner as to allow the potential inadvertent actuation of a loss of offsite power. The licensee approved a major modification to the procedure which did not specify the required position of circuit breaker ACB 3-7. Without positive control of the position of this breaker, an inadvertent loss of offsite power could have been prematurely initiated by the test procedure.

RESPONSE

Startup test 2.5.30 (Loss of Offsite Power) was modified to reflect the use of a different source of offsite power during the test. A test procedure change was made for this situation, but the procedure change did not include specifying the position of circuit breaker ACB 3-7. We believe positive control of the position of this circuit breaker existed independent of a specific step in this test procedure.

The normal and intentional position of all the circuit breakers in the 345kv switchyard ring bus is closed. Circuit breaker ACB 3-7 was in its normal and intentionally closed position before and during this test.

Additionally, all yard switching must be approved by the Commonwealth Edison load dispatcher. The load dispatcher was briefed in detail on the test procedure. If ACB 3-7 would have been opened, he would have questioned the opening of ACB 5-6 because it would not have been in accordance with the discussed line-up.

Assuming the positive controls described above were to fail, an inadvertent loss of offsite power could not have been prematurely initiated by this test procedure. This is because the Unit 1 ring bus was crosstied with the energized Unit 2 ring bus which was being fed from a separate offsite power source. Given the position of circuit breaker ACB 6-7 that was specified in the test procedure, the position of circuit breaker ACB 3-7 could not have interrupted power to Unit 1.

Therefore, we do not understand the basis for the NRC conclusion that an inadvertent loss of offsite power could have been prematurely initiated by the test procedure. Our conclusion is that the position of circuit breaker ACB 3-7 was inconsequential to the conduct of the test and that Criteria V and VI of 10 CFR 50, Appendix B were not violated.

Commonwealth Edison requests the NRC to reconsider whether NRC regulations were violated in this instance.