

May 20, 1981

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Serial No.: NO-81-899

Office of Nuclear Reactor Regulation
ATTENTION: Mr. T. A. Ippolito, Chief
Operating Reactors Branch No. 2
United States Nuclear Regulatory Commission
Washington, D. C. 20555



BRUNSWICK STEAM ELECTRIC PLANT UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
IN-SERVICE INSPECTION AND TEST PROGRAM

Dear Mr. Ippolito:

Summary

Your March 5, 1981 letter requested additional information regarding Carolina Power & Light Company's (CP&L) January 30, 1980 In-Service Inspection (ISI) submittal for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2. Our March 2, 1981 letter transmitted to NRC a complete revision to the Brunswick ISI Program. This submittal upgraded our program to the 1977 Edition through the Summer, 1978 Addendum of the ASME B&PV Code, Section XI. Several of your questions have been resolved by our latest submittal, but each question is addressed individually below.

Questions and Responses

Question No. 1

The Brunswick Steam Electric Plant In-Service Inspection program states that two examination category B-B welds in the reactor vessel are considered inaccessible for volumetric examination due in part to high radiation levels. Estimate the radiation exposure in man-rem to conduct these examinations and discuss the feasibility of increasing the extent of examination on accessible category B-B welds to compensate for the examinations which cannot be performed.

Response No. 1

Per Enclosure "C" of our latest ISI submittal, we have requested relief from the volumetric inspection of the reactor pressure vessel welds as required by IWB-2500, category B-B. This is applicable to the bottom head welds J-31 and J-42. The justification for

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exempting these welds from the volumetric examination is due primarily to inaccessibility of the welds. The radiation levels in this area average from 100 to 200 mr/hr. during refueling outages.

We feel that your request to increase the examinations on accessible category B-B welds to compensate for the examinations which cannot be performed will not significantly increase the integrity of the vessel head welds, because all remaining accessible category B-B welds are being examined in accordance with the latest approved code requirements. Adequate assurance of the inaccessible welds' integrity is verified by the visual examination performed during the RPV hydrostatic test.

Question No. 2

The ISI program contains a request for relief from volumetric examination of welds in several Class 1 lines based on no safety consequences of failures within these lines. Relief can only be granted for examinations which are impractical due to the limitations of design, geometry, or materials of construction of components, as stated in 50.55a(g). Your justification does not meet these criteria and relief cannot be granted based on the information supplied.

Response No. 2

The request for relief as stated in our 1980 submittal is no longer valid. Our latest submittal of the Brunswick In-Service Inspection program does not request relief for any Class 1 lines based on the reasoning of no safety consequences of failure.

Question No. 3

The ISI program states that one weld in each Type A containment penetration is inaccessible for volumetric examination. Indicate the type and proximity of leak detection systems to each of these penetrations. We will require augmented examination of the outer out-of-containment Class MC/Class 1 or 2 containment pressure boundary weld using volumetric or surface techniques where practical.

Response No. 3

The closest leak detection system to the referenced inaccessible welds is located at the drywell floor level. This system consists of a drywell equipment sump and a drywell sump. The leakage is based on a cumulative amount from all of the equipment and piping in the drywell area, and it has no means of localizing. Acceptable levels of leakage are specified in technical specifications.

We feel that your requirement to add an augmented examination of the outer out-of-containment Class MC/Class 1 or 2 containment pressure boundary weld does not adequately verify the integrity of the inaccessible weld. The augmented examination of the welds as you propose would only duplicate information already determined by our integrated leak rate test.

Question No. 4

The code required volumetric examination of various welds in pipe of greater than .3 inch wall thickness is neither specified in the examination tables nor covered in a relief request. Modify the tables to include volumetric examinations where required.

Response No. 4

The volumetric examination of various welds in our latest submittal are in accordance with code requirements. This is no longer a concern.

Question No. 5

Describe the limitations of design or geometry which make volumetric or surface examinations of lines inside the suppression chamber impractical.

Response No. 5

Question No. 5 is not applicable to our latest ISI submittal. We have no limitations of examinations for lines inside the suppression chamber, based on design or geometry.

Question No. 6

Relief was requested from the visual examination requirement for the recirculation pump internals. Provide the following additional information for our review:

- a. The specific tasks and man-hours for disassembly of the pump.
- b. The estimated radiation exposure in man-rem resulting from these examinations.
- c. The field experience of the casing material in this application.

In addition, submit a proposal for conducting thickness measurements of the casing with UT for detection of internal degradation.

Response No. 6

The relief request as noted in Question No. 6 is not applicable to our latest submittal. The reactor recirculation pump internals are being inspected in accordance with code requirements.

Question No. 7

Several Class 1 welds are described as having limited accessibility for volumetric examination. For each weld, indicate the ASME Code examination category, the design or access features which prevent access, the estimated percentage of code required volume which can be examined, and any surface examinations performed to supplement the limited volumetric examinations.

Response No. 7

Question No. 7 is no longer applicable. Our latest submittal requested no exceptions or relief for Class 1 welds due to limited accessibility.

Question No. 8

The examinations scheduled for Category B-G-1 bolting in your program are not in accordance with the code requirements. Modify the program to include the code required volumetric and surface examinations.

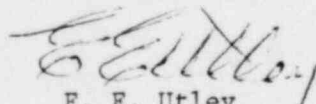
Response No. 8

Our latest ISI submittal has a much more comprehensive program for Category B-G-1 bolting than our previous submittal. The bolting inspection requirements of our latest submittal are per ASME Section XI code, Summer 1978 addenda.

Conclusion

We hope these responses will help to clarify and resolve your concerns regarding our ISI program. If you have any further questions concerning these responses, please do not hesitate to contact us.

Yours very truly,



E. E. Utley
Executive Vice President
Power Supply and
Engineering & Construction