



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

JUN 17 1985

Docket No. 50-416

MEMORANDUM FOR: Thomas M. Novak, Assistant Director  
for Licensing  
Division of Licensing

FROM: William V. Johnston, Assistant Director  
Materials, Chemical & Environmental Technology  
Division of Engineering

SUBJECT: MISSISSIPPI POWER AND LIGHT COMPANY, GRAND GULF  
STATION, UNIT 1 (TAC NOS. 52631, 55523, AND 55762)

Plant Name: Grand Gulf Station, Unit 1

Supplier: General Electric, Bechtel

Docket No: 50-416

Responsible Branch: Licensing Branch #4

Project Manager: L. Kintner

Reviewer: M. R. Hum

Description of Task: Review of OELD Comments On Preservice  
Inspection Relief Requests

Review Status: Complete

In accordance with a request from the Project Manager, the Inservice Inspection Section, Materials Engineering Branch, Division of Engineering, has reviewed your memorandum dated May 10, 1985 that transmitted comments from OELD related to the submittal of requests for relief from impractical preservice inspection requirements after the issuance of the operating license. OELD indicates that a conclusion must be reached whether enforcement action rather than NRC approval of alternative testing is the appropriate response to the request. Although the issue identified by OELD pertains to Grand Gulf, the subject is common to many recently-licensed plants. The licensees of Susquehanna Unit 1, Grand Gulf, Limerick, Waterford Unit 3, and WNP-2 have submitted written requests for relief from preservice requirements after licensing. In the case of WNP-2, the requests were docketed after commercial operation.

Several years before the issuance of the operating license, the staff discussed the subject of impractical code requirements in SER Sections 5.2.4 and 6.6. Therefore, the applicants and licensees have the clear responsibility to identify the specific issues and to provide a technical justification for the relief requests in a timely manner. The staff takes action to address all written preservice relief requests that have been docketed prior to issuance of the OL. The legal issue relates to the punctuality of the licensee's request. The technical issue relates to whether the request has merit and would have been approved if submitted by the licensee in a reasonable period of time before issuance of the OL.

Contact: M. Hum  
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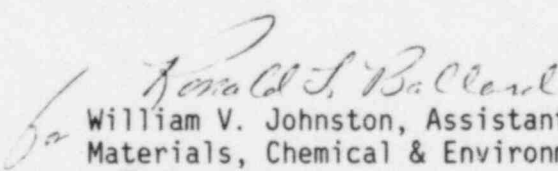
Thomas M. Novak

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A summary of the issues, including the requirements of the regulations, the Technical Specifications and the ASME Code, is presented in the attachment that is applicable to all recently licensed facilities. The staff's conclusions are as follows:

- 1) Some of the licensee's submittals were not timely and a conclusion by the staff to deny the request and require that the inspections be performed would impact plant operation.
- 2) Regarding the date when the submittal of preservice relief request is required, a licensee is not in violation of 10 CFR 50.55a(g) or standard Technical Specification paragraph 4.0.5 until the day before commercial service.
- 3) The ASME Code requires that some preservice inspections be performed after initial criticality for BWR plants. License conditions for some facilities sometimes require the completion of construction or testing of specific plant systems. Thus a preservice inspection for these ASME Code Class 1, 2 or 3 components is necessary and additional relief requests may be required after licensing.
- 4) Licensees may not have the approved and certified results of the preservice inspections until a significant period of time after the issuance of the operating license. Based on currently referenced ASME Code editions, licensees have interpreted the ASME Code to permit the extension of the preservice inspection to commercial service and therefore, the examination results can be submitted within 90 days after commercial service. Requests for relief from preservice requirements can result from the licensee's evaluation of the final summary report.

It is our understanding that Grand Gulf Unit 1 has not yet entered commercial service. Although the staff believes that applicants and licensees can and should identify the subject of relief requests before issuance of the operating license, we conclude that the date of submittal of the three requests related to Grand Gulf do not violate 10 CFR 50.55a(g) because they were submitted before commercial service. Based on the conclusions described in the attachment, the staff will prepare a modification to the original safety evaluation to reflect the revision in 10 CFR 50.55a(a)(3).

  
William V. Johnston, Assistant Director  
Materials, Chemical & Environmental  
Technology  
Division of Engineering

Attachment: As stated

cc: See Page 3

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cc: J. P. Knight  
H. Thompson  
J. Scinto, OELD  
J. R. Gray, OELD  
E. Adensam  
B. D. Liaw  
C. Cheng  
W. Hazelton  
R. Klecker  
L. Kintner  
M. Young, OELD  
G. Freund, SAI  
MTEB Members  
M. Hum

## ATTACHMENT

### REVIEW OF PRESERVICE INSPECTION REQUEST FOR RELIEF SUBMITTED AFTER ISSUANCE OF THE OPERATING LICENSE

#### INSERVICE INSPECTION SECTION MATERIALS ENGINEERING BRANCH

##### Introduction:

Several years before the issuance of the operating license, it is the staff's practice to discuss the subject of impractical Code requirements in SER Sections 5.2.4 and 6.6. Therefore, the applicants and licensees have the clear responsibility to identify the specific issues and to provide a technical justification for such relief requests in a timely manner. When a licensee identifies an impractical preservice requirement after power operation or commercial service, a staff conclusion that an examination should be performed will impact plant operations. The requirements of the regulation, the Technical Specifications and the ASME Code will be compared with the commercial practice of the industry. The regulations permit an applicant to update to later editions and addenda of Section XI of the ASME Code. To explain the major issues, this summary will cite Code requirements from a number of editions that an applicant could use to prepare a Preservice Inspection Program.

##### Regulations and Requirements:

The requirements for preservice (PSI) and inservice inspection (ISI) are contained in 10 CFR 50.55a(g). The referenced editions of Section XI of the ASME Code are defined in 10 CFR 50.55a(b). Provisions for relief from impractical PSI and ISI requirements are described in paragraphs 50.55a(a)(3) and 50.55a(g)(5), respectively.

The standard Technical Specifications paragraph 4.0.5 generally states that "the surveillance requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i)."

Section XI of the ASME Code defines inservice inspection to include pre-service inspection unless a distinction is made in the text of the document. Section XI (1980 Edition) references the regulations of the Federal Power Commission, 18 CFR 101, "Uniform System of Accounts Prescribed For Public Utilities and Licensees Subject To The Provisions of the Federal Power Act (Class A and Class B)." The date of placement into commercial service is defined by the Code as 18 CFR 101, paragraph 9.D which states "The equipment accounts shall include the necessary costs of testing or running a plant or parts thereof during an experimental or test period prior to such plant becoming ready for or placed in service. The utility shall furnish the Commission with full particulars of and justification for any test or experimental run extending beyond a period of 120 days for nuclear plant, and a period of 90 days for all other plants. Such particulars shall include a detailed operational and downtime log showing days of production, gross kilowatts generated by hourly increments, types, and periods of outages by hours with explanation thereof, beginning with the first date the equipment was either tested or synchronized on the line to the end of the test period."

Requirements of Section XI of the Code

It should be emphasized that Section XI of the ASME Code is revised on a routine basis, modified by Code Cases, and subject to interpretation through Code Inquiries. Therefore, licensees do interpret the same technical requirement and sometimes reach different conclusions. One licensee may determine that an examination is in compliance with the Code and take no action while another licensee may decide that the same examination requirement is not practical and submit a written request for relief.

Paragraph IWA-2400(b) requires in the 1980 Edition that the inservice inspection interval shall be determined by calendar years following placement of the power unit into commercial service. Therefore, the preservice inspection period ends at the time of commercial service, which is based on the Federal Power Commission regulations 18 CFR 101.

Paragraph IWA-6230 requires that a summary report for Class 1 and 2 pressure retaining components and their supports be filed with the enforcement and regulatory authorities having jurisdiction at the plant site within 90 days of the completion of the inservice inspection conducted during a refueling outage. The Winter 1983 Addenda of Section XI of the Code, which is not yet referenced in 10 CFR 50.55a(b), requires that the preservice inspection summary report be filed prior to commercial service with the enforcement and regulatory authorities. This filing includes at least the mandatory "Owners Data Report For Inservice Inspections," e.g., Form NIS-1.

Since the initial publication of Section XI in 1971, the support settings of ASME Class 1 constant and variable spring type hangers, snubbers and shock absorbers were required to be inspected to verify proper distribution of design loads among the associated support components. Paragraph IWF-2200(b) requires in the 1980 Edition that all examinations for components supports be performed after the initiation of hot functional tests, which occurs after initial criticality for BWR plants.



Commercial Practice of the Industry:

The applicant must select the applicable editions and addenda of Section XI of the Code as a basis for the Preservice Inspection Program. Applying 50.55a(g)(2) or (3), the plant owner will reach the conclusion that the regulation requires the use of either the 1971 or 1974 Edition of Section XI. Most applicants, however, voluntarily elect to update to the requirements of later referenced editions and use either the 1977 or 1980 Edition, which is considerably different from 1971 or 1974 edition, for compatibility between the preservice and inservice inspections. Many preservice relief requests involve issues that result from the commitment by applicants to meet the requirements of later Code editions. During the safety evaluation, the staff compares the applicant's commitment with the actual examination and evaluates the technical justification for the differences.

The applicant normally hires one or more commercial inspection agencies to perform most of the PSI. Contractors can be at a plant site for years performing inspections. Although intermediate reports are prepared by the inspection agency, the cumulative data is normally reviewed and assembled near the completion of the PSI into a final summary report that is approved by the inspection agency, the utility and the independent Authorized Nuclear Inservice Inspector. This document is at least several thousand pages and can be as large as ten thousand pages.

The NIS-1 form is required by the regulations for inservice inspections and will be required for preservice inspections when Article IWA-6000 of the Winter 1983 Addenda of Section XI is referenced by 10 CFR 50.55a(b) as published. However, many licensees elect to file the NIS-1 form with the enforcement authorities for the preservice inspection, which is either derived from or attached to the final summary report. During the preparation and approval of these two certified documents, the applicant may have to resolve interpretations about compliance with specific Code requirements. The licensee may determine that a Code requirement was not practical and submit a relief request.

As a result of license conditions and startup tests, the construction, repair, replacement or modification of ASME Code Class components is a normal practice after licensing during a period of time up to and including full power operation. Some utilities scheduled a short maintenance outage before the full-power "warranty" run. As a result, the Code requires a preservice inspection of these new or modified components and additional relief requests may be identified after modifications.

Applicants and licensees also undertake a continuing program to review and modify design drawings to reflect "as-built" conditions. Licensees use these "as-built" drawings to prepare their initial inservice inspection program. Occasionally, a licensee will determine that a few welds that required a preservice examination were inadvertently missed. The licensee will then submit at least a letter proposing a course of action.

#### Staff Evaluation

1. The Code requires that some preservice inspections be performed after issuance of the OL. Other preservice inspections and possible additional relief requests result from license conditions and plant modifications after issuance of the OL.
2. The licensee is not required by the Code to complete the PSI until commercial service although many licensees attempt to finish all examinations except the PSI of component supports, which are required to be performed following hot functional or power ascension tests, to declare that inspections are complete in order to file the NIS-1 form.
3. Applicants and licensees do interpret the same Code requirements and sometimes reach different conclusions. This situation is apparent from the number and issues involved with relief requests submitted by various utilities.



4. At the time of issuance of the OL, a licensee may not have all approved preservice inspection results and probably does not have a signed NIS-1 form. Therefore, a licensee may not have all the specific information regarding impractical examinations until a significant time after licensing.
5. Although not required by editions and addenda referenced in 10 CFR 50.55a(b), licensees are filing NIS-1 forms for the preservice inspection. The Regional Offices are responsible for the review of the preservice inspection data and the NIS-1 form. Based on the Federal Power Commission regulations, a facility probably can not be placed into commercial service until either the final summary report and the NIS-1 form or some document declaring that the preservice inspection is finished, is filed with the appropriate Regional Office. Since the Authorized Nuclear Inservice Inspector must certify that "the Owner has performed examinations and taken corrective measures described in this Owner's Data Report in accordance with the requirements of the ASME Code, Section XI," the NIS-1 form frequently has qualifying statements; e.g., "... the requirements of Section XI have been met:
  - (A) Except where written relief has been approved.
  - (B) To the extent practical except as described in the attached request for relief.
  - (C) To the extent practical as described in the text of the data report.
  - (D) To the extent practical except as noted in the final summary report, which is attached or available for review at the plant site."

The staff assumes that the latter two qualifications are based on the interpretation by licensees that paragraph 50.55a(a)(2)(i) in the 1984 Code of Federal Regulations does not require a written approval for implementation.

6. The staff has indicated in SER Sections 5.2.4 and 6.6 and standard Technical Specification paragraph 4.0.5 that written approval of relief requests is required. Some licensees consider the filing of written requests or the disclosure of qualifications as the extent of their responsibility.

Conclusions:

1. The applicants and licensees have the responsibility to submit requests for relief from impractical Code requirements in a timely manner.
2. After a licensee has determined that all Code requirements or commitments have been met, including approval of relief requests, questions about compliance with specific Code provisions should be addressed by the Regional Offices during the review of the inspection data reports and the NIS-1 form.
3. Some of the licensee's submittals were not timely and a conclusion by the staff to deny the request and require that the inspections be performed would impact plant operations.
4. Regarding the date of submittal of preservice relief requests, a licensee is not in violation of 10 CFR 50.55a(g) or standard Technical Specification paragraph 4.0.5 until the day before commercial service.
5. Licensees have interpreted the ASME Code to permit extension of the preservice inspection to commercial service and, therefore, the examination results can be submitted within 90 days after commercial service. This is an ambiguity in the previous Code editions, that is to be resolved in Winter 83 addendum.