December 7, 2000

Mr. Carl Terry, BWRVIP Chairman
Niagara Mohawk Power Company
Post Office Box 63
Lycoming, NY 13093

SUBJECT: ACCEPTANCE FOR REFERENCING OF "BWR VESSEL AND INTERNALS PROJECT, BWR TOP GUIDE INSPECTION AND FLAW EVALUATION GUIDELINES (BWRVIP-26)" REPORT FOR COMPLIANCE WITH THE LICENSE RENEWAL RULE (10 CFR PART 54)

Dear Mr. Terry:

By letter dated December 27, 1996, as supplemented and modified by letters dated July 27, and December 19, 1997, and April 13, and August 5, 1999, the Boiling Water Reactor Vessel and Internals Project (BWRVIP) submitted the Electric Power Research Institute (EPRI) proprietary Report TR-107285, "BWR Vessel and Internals Project, BWR Top Guide Inspection and Flaw Evaluation Guidelines (BWRVIP-26)," December 1996, for U.S. Nuclear Regulatory Commission (NRC) staff review. In response to the staff's request for additional information (RAI) dated March 14, 1997, the BWRVIP provided supplemental information by letter dated December 19, 1997. The NRC staff issued its initial safety evaluation report (SER), with open items, by letter dated May 18, 1999. The BWRVIP responded to these open items by letter dated August 5, 1999, modifying the BWRVIP-26 report. The staff issued a final SER (FSER) by letter dated September 29, 1999, which found the BWRVIP-26 report, as supplemented and modified, acceptable for the current operating period of BWRs.

On July 27, 1997, the BWRVIP submitted "Appendix C, BWR Top Guide Demonstration of Compliance with the Technical Information Requirements of the License Renewal Rule (10 CFR 54.21)," for NRC staff review. The BWRVIP submitted a non-proprietary version of the BWRVIP-26 report, TR-107285NP, on April 13, 1999.

As documented in the attached license renewal (LR) SER, the NRC staff has completed its review of Appendix C to the BWRVIP-26 report. As discussed, the staff found the BWRVIP-26 report to be acceptable for licensees participating in the BWRVIP to reference in an LR application to the extent specified and under the limitations delineated in the LR SER. In order for licensees participating in the BWRVIP to reference the report, they must commit to the accepted aging management programs defined therein, and complete the action items described in the LR SER.

By referencing the BWRVIP-26 report, as supplemented and modified, and meeting these limitations, an applicant will provide sufficient information that the staff will be able to make a finding that there is reasonable assurance that the applicant will adequately manage the effects of aging so that the intended functions of the reactor vessel internal components covered by the scope of the report will be maintained consistent with the current licensing basis during the period of extended operation.

The staff does not intend to repeat its review of the matters described in the report and found acceptable in the LR SER when the report appears as a reference in LR applications, except to ensure that the material presented applies to the specified plant.

In accordance with the procedures established in NUREG-0390, "Topical Report Review Status," the staff requests that BWRVIP publish the accepted version of BWRVIP-26 within 90 days after receiving this letter. In addition, the published version shall incorporate this letter and the enclosed LR SER, as well as the staff's initial SER and FSER, between the title page and the abstract.

To identify the version of the report that was found accepted by the staff, the staff requests that the BWRVIP include "A" following the topical report number (e.g., BWRVIP-26-A).

Sincerely,

/***RA***/

Christopher I. Grimes, Branch Chief
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 704

Enclosure: Final Safety Evaluation Report

cc w/encl: See next page

By referencing the BWRVIP-26 report, as supplemented and modified, and meeting these limitations, an applicant will provide sufficient information that the staff will be able to make a finding that there is reasonable assurance that the applicant will adequately manage the effects of aging so that the intended functions of the reactor vessel internal components covered by the scope of the report will be maintained consistent with the current licensing basis during the period of extended operation.

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Sincerely,

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Christopher I. Grimes, Branch Chief
License Renewal and Standardization Branch
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Project No. 704

Enclosure: Final Safety Evaluation Report

cc w/encl: See next page

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Enclosed SER provided by memorandum from W. Bateman, EMCB, to C. Grimes, RLSB, dated August 17, 2000, Accession number ML003747727.

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FINAL LICENSE RENEWAL SAFETY EVALUATION REPORT
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
FOR
BWR VESSEL AND INTERNALS PROJECT, BWR TOP GUIDE INSPECTION
AND FLAW EVALUATION GUIDELINES (BWRVIP-26)
FOR COMPLIANCE WITH THE LICENSE RENEWAL RULE (10 CFR PART 54)

1.0 INTRODUCTION

1.1 Background

By letter dated December 27, 1996, as supplemented and modified by letters dated July 27, and December 19, 1997, and April 13, and August 5, 1999, the Boiling Water Reactor Vessel and Internals Project (BWRVIP) submitted the Electric Power Research Institute (EPRI) proprietary Report TR-107285, "BWR Vessel and Internals Project, BWR Top Guide Inspection and Flaw Evaluation Guidelines (BWRVIP-26)," December 1996, for U.S. Nuclear Regulatory Commission (NRC) staff review. The BWRVIP-26 report provides generic guidelines intended to present the appropriate inspection recommendations to assure safety function integrity of the subject safety-related RPV internal components. The report also provides design information on the top guide, geometries, weld locations, and potential failure locations for the several categories of boiling water reactors (BWR/2 through BWR/6). The BWRVIP submitted a non-proprietary version of the BWRVIP-26 report, TR-107285NP, on April 13, 1999.

In response to the staff's request for additional information (RAI) dated March 14, 1997, the BWRVIP provided supplemental information by letter dated December 19, 1997. The NRC staff issued its initial safety evaluation report (SER), with open items, by letter dated May 18, 1999. The BWRVIP responded to these open items by letter dated August 5, 1999, modifying the BWRVIP-26 report.

The staff issued a final SER (FSER) by letter dated September 29, 1999, which found the BWRVIP-26 report, as supplemented and modified, acceptable for the current operating period of BWRs.

1.2 License Renewal Appendix

By letter dated July 27, 1997, the BWRVIP submitted a supplement to the BWRVIP-26 report, "Appendix C, BWR Top Guide Demonstration of Compliance with the Technical Information Requirements of the License Renewal Rule (10 CFR 54.21)," for NRC staff review in accordance with the License Renewal (LR) Rule (10 CFR Part 54).

Section 54.21 of the LR Rule requires, in part, that each application for license renewal contain an integrated plant assessment (IPA) and an evaluation of time-limited aging analyses (TLAAs). The IPA must identify and list those structures and components subject to an aging management review and demonstrate that the effects of aging will be adequately managed so that their intended functions will be maintained consistent with the current licensing basis (CLB)

for the period of extended operation. In addition, 10 CFR 54.22 requires that each application include any technical specification (TS) changes or additions necessary to manage the effects of aging during the period of extended operation as part of the renewal application.

If an LR applicant participating in the BWRVIP confirms that the BWRVIP-26 report applies to it and that the results from the Appendix C IPA and TLAAs evaluations are in effect at its plant, then no further review by the NRC staff of the issues described in the documents is necessary, except as specifically identified by the staff below. With this exception, such an applicant may rely on the BWRVIP-26 report for the demonstration required by Section 54.21(a)(3) with respect to the components and structures within the scope of the report. Under such circumstances, the NRC staff intends to rely on the evaluation in this LR SER to make the findings required by 10 CFR 54.29 with respect to a particular application.

1.3 Purpose

The staff reviewed the BWRVIP-26 report and its Appendix C to determine whether its guidance will provide acceptable levels of quality for inspection and flaw evaluation of the subject safety-related RPV internal components during the period of extended operation. The review also considered compliance with the LR Rule in order to allow applicants the option of incorporating the BWRVIP-26 guidelines by reference in a plant-specific IPA and associated TLAAs.

1.4 Organization of this Report

Because the BWRVIP-26 report, as supplemented and modified, is proprietary, this SER was written so as not to repeat information contained in the proprietary portions of the report. The staff does not discuss in any detail the provisions of the guidelines nor the parts of the guidelines it finds acceptable. A brief summary of the contents of the BWRVIP-26 report is given in Section 2.0 of this SER, with the NRC staff's evaluation presented in Section 3.0. The conclusions are summarized in Section 4.0. The presentation of the evaluation is structured according to the organization of the BWRVIP-26 report.

2.0 SUMMARY OF BWRVIP-26 REPORT

The BWRVIP-26 report and its Appendix C contain a generic evaluation of the management of the effects of aging of the subject safety-related RPV internal components so that the intended functions will be maintained consistent with the CLB for the period of extended operation. This evaluation applies to BWR applicants who have committed to implementing the BWRVIP-26 report and want to incorporate the report and Appendix C by reference into a plant-specific IPA and associated TLAAs.

2.1 BWRVIP-26 Topics

The BWRVIP-26 report addresses the following topics:

- Component Description and Function – The various top guide configurations are described in detail by a series of illustrations along with brief descriptions of each configuration's function and characteristics. Differences among the various models of BWRs (BWR/2, BWR/3-5 and BWR/6) are identified.

- Susceptibility Factors – The various types of material degradation mechanisms (stress corrosion cracking and irradiation assisted stress corrosion cracking) that could impact the top guide are described. Materials, stress, and environmental factors are described in general terms, and followed by specific references to actual occurrences for each degradation mechanism relative to plant operating experience for particular mechanisms and components.

- Potential Failure Locations and Safety Consequences - Each of the top guide configurations are addressed from the standpoint of inspection history, future susceptibility to degradation, and consequences of failures in terms of component functions and plant safety. Based on these qualitative considerations, the BWRVIP-26 report makes recommendations as to the need for inspections of each top guide configuration.

- Background and Inspection History – Data on service related failures of components are summarized. The major sources of such data are the various General Electric Service Information Letters (SILs) and Rapid Information Communication Service Information Letters (RICSILs). Inspection requirements are evaluated according to the following four criteria: 1) the potential consequences of a failure to plant safety, 2) the ability to detect degradation, 3) field cracking history as a means to identify the most likely locations for material degradation, and 4) the extent to which results from prior inspections provide a high level of confidence that no degradation mechanisms are active for the components of concern.

- Inspection Guidelines – The guidelines recommend the specific locations, NDE methods, and inspection frequencies for examinations of top guide configurations. The recommended NDE methods are limited to visual examinations, with reference made to the BWRVIP-03 report for detailed requirements for implementing these visual examinations. The BWRVIP-26 report recommends only a limited number of inspections for the top guide, based mainly on the relatively good service experience to date that indicates no evidence of generic cracking. The non-impairment of safety functions of postulated structural failures is cited to justify the recommended level of inspection.

- Loads – This section describes the loads used in fracture mechanics evaluations to address the effects of detected flaws on structural integrity. The various types of loads (e.g., pressures, seismic, etc.) of concern are listed.

2.2 Identification of Structures and Components Subject to an Aging Management Review

10 CFR 54.21(a)(1) requires that an IPA identify and list those structures and components within the scope of license renewal that are subject to an aging management review (AMR). Structures and components subject to an AMR shall encompass those structures and

components that (1) perform an intended function, as described in 10 CFR 54.4, without moving parts or without a change in configuration or properties and (2) are not subject to replacement based on a qualified life or specified time period. These structures and components are also referred to as "passive" and "long-lived" structures and components, respectively.

Section 2.0 of the BWRVIP-26 report describes the intended function of the top guide. The function is to provide lateral support for the fuel assemblies. To accomplish this, the top guide transfers loads from the fuel to the shroud while maintaining acceptably small horizontal and vertical displacements. Therefore, it can be assured that the control rods will properly insert upon initiation of a reactor SCRAM or shutdown.

The BWRVIP-26 report's Appendix C identifies the passive and long-lived components as required by 10 CFR 54.21(a)(1). The BWRVIP-26 report noted that the top guide assembly components are subject to AMR.

2.3 Effects of Aging

The BWRVIP-26 report identified the aging mechanisms and aging effects for the top guide using the guidance from NUMARC 90-02, "BWR Reactor Pressure Vessel License Renewal Industry Report," Revision 1, dated August 1992, and the resolution to the NRC's questions on that industry report. The BWRVIP-26 report also used NUREG-1557, dated October 1996 (Ref. 5), to correlate the aging effects and their associated aging mechanisms. Using these reports, the BWRVIP-26 report determined that crack initiation and growth is the only aging effect that requires AMR for the top guide components.

Section 2.0 of the BWRVIP-26 report discusses the causes of crack initiation and growth and provided a susceptibility assessment, and also discussed the susceptibility factors of environment, materials, and stress state. The BWRVIP-26 report's review of the degradation history determined the following:

- All locations on the top guide are subjected to an aggressive environment and are within a region of high electrochemical corrosion potential (ECP).
- Certain locations on the top guide are susceptible to irradiation assisted stress corrosion cracking (IASCC) due to the high fluence (>5 X 10^{20} n/cm^2, E > 1 MeV).
- Top guide materials at locations where a heat affected zone (HAZ) or excessive cold work exists may be susceptible to intergranular stress corrosion cracking (IGSCC).
- The cracking history suggests that all top guide components regardless of material are also susceptible.
- Regions with the highest expected crack susceptibility are the creviced locations, especially those creviced regions subject to fit-up and/or weld residual stresses.

2.4 Aging Management Programs

10 CFR 54.21(a)(3) requires that the applicant demonstrate, for each component identified, that the effects of aging will be adequately managed so that the intended function will be maintained consistent with the CLB for the period of extended operation.

Section 3.0 of the BWRVIP-26 report discusses the inspection strategy to be used for assuring that cracks that might occur in the top guide are detected in a timely manner. The guidelines are generic in nature and are based upon the function or location of the top guide components and how that function contributes to provide lateral support for the fuel. Plant- specific analysis may justify the degree of the inspection methods to be used. This may range from no inspection required to the use of visual (VT) examination and/or ultrasonic (UT) inspection. The BWRVIP-26 report concluded that both its inspection program and plant-specific considerations will result in the maintenance of the structural integrity and/or function in the CLB for the subject safety-related RPV internal components.

2.5 Time-Limited Aging Analyses (TLAAs)

10 CFR 54.21(1)(c) requires that each application for license renewal contain an evaluation of TLAAs as defined in 10 CFR 54.3, and that the applicant shall demonstrate that:

(i) The analyses remain valid for the period of extended operation;

(ii) The analyses have been projected to the end of the period of extended operation; or

(iii) The effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

The TLAAs considered in the BWRVIP-26 report are those licensee calculations and analyses that:

(1) involve the top guide within the scope of license renewal;

(2) consider the effects of aging;

(3) involve time-limited assumptions defined by the current operating term;

(4) were determined to be relevant by the licensee in making a safety determination;

(5) involve conclusions or provide the basis for conclusions related to the capability of the top guide to perform its intended function; and

(6) are contained or incorporated by reference in the CLB.

With respect to the BWRVIP-26 report, if a plant-specific analysis, as identified by an applicant, meets all six of the above criteria, the analysis will be considered a TLAA for license renewal and will be evaluated by the applicant on a plant-specific basis.

The susceptibility of the top guide to accumulated neutron fluence at the grid beam location results in a potential TLAA issue. The BWRVIP-26 report evaluated this issue under 10 CFR 54.21(c)(1)(ii) by projecting the analysis to the end of the period of extended operation. The BWRVIP-26 report found that the projected minimum end-of-life fluence at the grid beam location after 48 effective full-power years (EFPY) of operation is approximately 6×10^{21} n/cm^2 (E > 1 MeV), which surpasses the approximated threshold fluence level for IASCC of 5×10^{20} n/cm^2 (E > 1 MeV).

3.0 STAFF EVALUATION

The staff reviewed the BWRVIP-26 report to determine if it demonstrated that the effects of aging on the subject reactor vessel components covered by the report would be adequately managed so that the components' intended functions would be maintained consistent with the CLB for the period of extended operation, in accordance with 10 CFR 54.21(a)(3). This is the last step in the IPA described in 10 CFR 54.21(a).

Besides the IPA, Part 54 requires an evaluation of TLAAs in accordance with 10 CFR 54.21(c). The staff reviewed the BWRVIP-26 report to determine if the TLAAs covered by the report were evaluated for license renewal in accordance with 10 CFR 54.21(c)(1).

3.1 Structures and Components Subject to Aging Management Review

The staff agrees that the top guide assembly is subject to an AMR because it performs intended functions without moving parts or without a change in configuration or properties. The staff concludes that BWR applicants for license renewal must identify the appropriate top guide assembly components as subject to AMR to meet the applicable requirements of 10 CFR 54.21(a)(1).

3.2 Intended Functions

The staff agrees that the intended function of the top guide assembly components is to provide lateral support for the fuel assemblies in order to ensure that the control rods will properly insert upon initiation of a reactor SCRAM or shutdown.

3.3 Effects of Aging

The information necessary to demonstrate compliance with the requirements of the license renewal rule 10 CFR 54.21 is provided in Appendix C of BWRVIP-26. The BWR Reactor Pressure Vessel Industry Report NUMARC 90-02, Revision 1, August 1992, and the resolution to the NRC's questions on that industry report, were used to identify the aging mechanisms for the top guide structure. If the industry report concluded that the aging mechanism is significant, then the aging mechanism was included in the AMR. Using this methodology, it was determined that crack initiation and growth is the only aging effect that required AMR.

3.4 Aging Management Programs

The staff evaluated the BWRVIP's aging management program (AMP) to determine if it contains the following 10 elements constituting an adequate AMP for license renewal:

(1) Scope of Program: The program is focused on managing the effects of crack initiation and growth due to intergranular stress corrosion cracking (IGSCC) on the intended function of the top guide core components. The program includes preventive measures to mitigate IGSCC and inservice inspection to monitor the effects of IGSCC on the intended function of the components and/or replacement as needed to maintain the capability to perform the intended function of the top guide.

(2) Preventive Actions: Coolant water chemistry is monitored and maintained in accordance with EPRI guidelines: stringent control of conductivity is used to inhibit IGSCC. Also, the use of hydrogen water chemistry and noble metal additions may be used to inhibit initiation of stress corrosion cracking and to minimize crack growth rates.

(3) Parameters Monitored or Inspected: The AMP monitors the effects of IGSCC on the intended function of the top guide components by detection and sizing of cracks by inservice inspection and special inspections. Inspection and flaw evaluation are preformed in accordance with the referenced BWRVIP guidelines, as approved by the NRC staff.

(4) Detection of Aging Effects: Inspection in accordance with BWRVIP guidelines ensures that degradation due to IGSCC is detected before the loss of the intended function of the top guide components.

(5) Monitoring and Trending: Inspection schedules in accordance with BWRVIP guidelines ensures timely detection of cracks. Scope of examination expansion and re-inspection beyond the baseline inspection are required if flaws are found.

(6) Acceptance Criteria: Any degradation is evaluated in accordance with ASME Code Section XI or other acceptable flaw evaluation criteria such as the BWRVIP Guidelines.

(7) Corrective Actions: Repair and replacement procedures are equivalent to those requirements in the ASME Code, Section XI

(8) & (9) Confirmation Process and Administrative Controls: Site QA procedures, review and approval processes and administrative controls are implemented in accordance with the requirements of Appendix B to 10 CFR Part 50.

(10) Operating Experience: The NRC Information Notice (IN) 95-17 discusses cracking in top guides of U.S. and overseas BWRs. Related experience in other components is reviewed in NRC Generic Letter (GL) 94-03 and NUREG-1544. Cracking has also been observed in the top guide of a Swedish BWR.

A licensee should review its plant specific AMP for this component to ensure that the elements discussed above are included in their program.

The staff's FSER of the BWRVIP-26 report was transmitted by letter dated September 29, 1999, to Carl Terry, BWRVIP Chairman. In it, the staff concluded that the inspection strategy and evaluation methodologies discussed in the BWRVIP-26 report as supplemented and modified, are acceptable for inspection of the subject safety-related RPV internal components, and that licensee implementation of the BWRVIP-26 report will provide an acceptable level of quality for examination of the BWR top guide. Implementation of the above inspection program provides reasonable assurance that crack initiation and growth will be adequately managed such that the intended functions of the subject safety-related RPV internal components will be maintained consistent with the CLB in the extended operating period.

3.5 Time Limited Aging Analyses

One of the mechanisms that can cause degradation of the top guide assembly design is IASCC, due to the high fluence that exists at the grid beam locations. The BWRVIP-26 report found that the projected minimum end-of-life fluence at the grid beam location after 48 EFPY of operation (assuming 60 years at 80 percent capacity factor) is approximately 6 X 10^{21} n/cm^2 (E > 1 MeV), which surpasses the approximated threshold fluence level for IASCC of 5 x 10^{20} n/cm^2 (E > 1 MeV). The staff agrees that the accumulated neutron fluence is a TLAA issue and must be identified and evaluated by individual applicants considering license renewal.

4.0 CONCLUSIONS

The staff has reviewed the subject BWRVIP-26 report. On the basis of its review, the staff concludes that the BWRVIP-26 report provides an acceptable demonstration that BWRVIP member utilities referencing this topical report will adequately manage the aging effects of reactor vessel components within the scope of the report, with the exception of the noted renewal applicant action items set forth in Section 4.1 below, so that there is reasonable assurance that the top guide will perform its intended functions in accordance with the CLB during the period of extended operation.

Any BWRVIP member utility may reference this report in a LRA to satisfy the requirements of (1) 10 CFR 54.21(a)(3) for demonstrating that the effects of aging on the reactor vessel components within the scope of this topical report will be adequately managed, and (2) 10 CFR 54.21(c)(1) for demonstrating the appropriate findings regarding evaluation of TLAAs for the top guide assembly for the period of extended operation. The staff also concludes that, upon completion of the renewal applicant action items set forth in Section 4.1 below, referencing this topical report in a LRA and summarizing in an FSAR supplement the AMPs and the TLAA evaluations contained in this topical report will provide the staff with sufficient information to make the necessary findings required by Sections 54.29(a)(1) and (a)(2) for components within the scope of this topical report.

4.1 Renewal Applicant Action Items

The following are license renewal applicant action items to be addressed in the plant-specific LRA when incorporating the BWRVIP-26 report in a renewal application:

(1) The license renewal applicant is to verify that its plant is bounded by the topical report. Further, the renewal applicant is to commit to programs described as necessary in the BWRVIP-26 report to manage the effects of aging on the functionality of the top guide structure during the period of extended operation. Applicants for license renewal will be responsible for describing any such commitments and identifying how such commitments will be controlled. Any deviations from the AMPs within the BWRVIP-26 report described as necessary to manage the effects of aging during the period of extended operation and to maintain the functionality of the reactor vessel components or other information presented in the report, such as materials of construction, will have to be identified by the renewal applicant and evaluated on a plant-specific basis in accordance with 10 CFR 54.21(a)(3) and (c)(1).

(2) 10 CFR 54.21(d) requires that an FSAR supplement for the facility contain a summary description of the programs and activities for managing the effects of aging and the evaluation of TLAAs for the period of extended operation. Those applicants for license renewal referencing the BWRVIP-26 report for the top guide system shall ensure that the programs and activities specified as necessary in the BWRVIP-26 report are summarily described in the FSAR supplement.

(3) 10 CFR 54.22 requires that each application for license renewal include any technical specification changes (and the justification for the changes) or additions necessary to manage the effects of aging during the period of extended operation as part of the renewal application. In its Appendix C to the BWRVIP-26 report, the BWRVIP stated that there are no generic changes or additions to technical specifications (TS) associated with the top guide as a result of its AMR and that the applicant will provide the justification for plant-specific changes or additions. Those applicants for license renewal referencing the BWRVIP-26 report for the top guide shall ensure that the inspection strategy described in the BWRVIP-26 report does not conflict or result in any changes to their TS. If TS changes do result, then the applicant should ensure that those changes are included in its application for license renewal.

(4) Due to IASCC susceptibility of the subject safety-related components, applicants referencing the BWRVIP-26 report for license renewal should identify and evaluate the projected accumulated neutron fluence as a potential TLAA issue. This issue is discussed in more detail in Section 3.5 of this report.

5.0 REFERENCES

1. Letter, Carl Terry, BWRVIP, to USNRC, “BWR Vessel and Internals Project, BWR Top Guide Inspection and Flaw Evaluation Guidelines (BWRVIP-26),” EPRI Report TR-107285, dated December 1996.

2. Letter, Carl Terry, BWRVIP, to USNRC, “BWRVIP Response to NRC Request for Additional Information on BWRVIP-26,” December 19, 1997.

3. Letter, C. E. Carpenter, USNRC, to Carl Terry, BWRVIP, “Propriety Request for Additional Information - Review of BWR Vessel and Internals Project, BWR Top Guide Inspection and Flaw Evaluation Guidelines (BWRVIP-26),” dated March 14, 1997.

4. Letter, Jack E. Strosnider, USNRC, to Carl Terry, BWRVIP, “Safety Evaluation of BWR Vessel and Internals Project, BWR Top Guide Inspection and Flaw Evaluation Guidelines (BWRVIP-26),” dated September 29, 1999.

5. NUREG-1557, Summary of Technical Information and Agreements from Nuclear Management and Resources Council Industry Reports Addressing License Renewal, October 1996.

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