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October 28, 1994

LCV-0440

Docket No. 50-425

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
MISAPPLICATION OF REQUIREMENTS DURING
REPAIR OF STEAM GENERATOR MANWAY COVER
AND REQUEST FOR RELIEF

During the third maintenance/refueling outage at Vogtle Electric Generating Plant, Unit 2 (VEGP-2), the upper east secondary manway cover on steam generator 2-1201-B6-001 was observed to have two minor steam cuts. While the steam cuts could have been removed by machining, a welded repair was elected to be performed on the affected manway cover with the intent of conserving section thickness for any necessary future machining. The manway cover was sent off-site to a vendor who performed the welded repair. After the welded repair was completed, the manway cover was returned to the plant site and was reinstalled prior to completion of the maintenance/refueling outage.

Subsequent to the completion of the repair activities briefly discussed above, it was determined there had been a misapplication of the repair requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code in that the requirements of Section XI had been used for the repair rather than Section III. In addition, a version of ASME Section XI had been used that had not been approved by the NRC for use. Specifically, the 1989 Edition of ASME Section XI with Addenda through 1990 had been used for the repair. To date, the NRC has approved both ASME Sections III and XI through the 1989 Edition as documented in 10 CFR 50.55a(b)(1) and 10 CFR 50.55a(b)(2) for ASME Sections III and XI, respectively. Use of later code editions/addenda require prior NRC review and approval.

Georgia Power Company (GPC) acknowledges the code misapplication and nonconformance with the requirements of 10 CFR 50.55a. In an effort to preclude any future occurrences, procedural deficiencies are being addressed and personnel within the

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U. S. Nuclear Regulatory Commission
LCV-0440
Page Two

department responsible for the repairs are being advised of the incident with the intent of increasing personnel awareness.

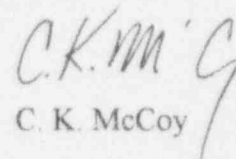
Although there was a misapplication of the ASME B&PV Code requirements during the course of the repair and its resulting nonconformance with the requirements of 10 CFR 50.55a, the repair and testing thereof met the requirements of the 1989 Edition of ASME Section XI with Addenda through 1990. An independent review by an outside consultant subsequent to the repair and identification of the code misapplication concurs with our determination that all of the requirements of the aforementioned version of ASME Section XI were met. The repair, as performed, does not pose any structural concern because it is a minor local repair which yields no significant reductions of design margins. It should be noted that the imposition of the requirements of the versions of the ASME B&PV Code identified in 10 CFR 50.55a(b)(1) and 10 CFR 50.55a(b)(2) for ASME Sections III and XI, respectively, would not have provided any commensurate increase in the level of safety over the version of ASME Section XI which was utilized for the manway cover repair.

As a result of the foregoing, GPC hereby submits the enclosed request for relief from the requirements of the ASME Section XI Code. Detailed information on the repair, including a discussion on the misapplication of the ASME B&PV Code requirements, proposed corrective actions, etc., are provided therein. Please note that the enclosed relief request has been assigned the next sequential relief request number, RR-58, as it would appear in VEGP-2 Inservice Inspection Program document ISI-P-014. Although reporting of the misapplication of the ASME B&PV Code requirements and the nonconformance with the requirements of 10 CFR 50.55a is our primary concern, the request for relief is being submitted with this notification rather than by the normal means of an ISI Program document revision. Relief Request RR-58 will be resubmitted to the NRC under separate cover in a future revision to the VEGP-2 ISI Program regardless of the outcome of your review in order to maintain the VEGP-2 ISI Program document current. The subject relief request applies to VEGP-2 only. NRC concurrence with the adequacy of repairs utilizing the 1989 Edition of ASME Section XI with Addenda through 1990 as discussed in the enclosure is requested, albeit after the fact, in accordance with 10 CFR 50.55a(a)(3)(i).

U. S. Nuclear Regulatory Commission
LCV-0440
Page Three

Should there be any questions in this regard, please contact this office at your earliest convenience.

Sincerely,


C. K. McCoy

CKM/JAE/jae

Enclosure: VEGP-2 ISI Program, Relief Request RR-58

xc: Georgia Power Company
Mr. J. B. Beasley, Jr.
Mr. S. H. Chesnut
Mr. M. Sheibani
NORMS

U. S. Nuclear Regulatory Commission
Mr. S. D. Ebnetter, Regional Administrator
Mr. D. S. Hood, Licensing Project Manager, NRR
Mr. B. R. Bonser, Senior Resident Inspector, Vogtle

ENCLOSURE
(RELIEF REQUEST RR-58 TO VEGP-2 ISI PROGRAM)

TO

GEORGIA POWER COMPANY
LETTER LCV-0440,
"MISAPPLICATION OF REQUIREMENTS DURING
REPAIR OF STEAM GENERATOR MANWAY COVER
AND REQUEST FOR RELIEF"

VOGTLE ELECTRIC GENERATING PLANT, UNIT 2
NRC DOCKET NO. 50-425

VEGP-2

RR-58

Component or Relief Area

The use of ASME Section XI Code, 1989 Edition with Addenda through 1990, for the welded repair of the upper east secondary side manway cover on steam generator 2-1201-B6-001, including the nondestructive examination (NDE) requirements for the repaired component.

Requirements from which Relief is Requested

Article IWA-4000 of the ASME Section XI Code, 1983 Edition with Addenda through Summer 1983, provides the rules and requirements for repairs to pressure-retaining components, supports, etc. Paragraph IWA-4120 of that particular edition and addenda of the Code requires that repairs be performed in accordance with the Owner's Design Specification and Construction Code of the component or system. Further, that paragraph allows the use of later editions of the Construction Code or of ASME Section III, either in the entirety or portions thereof. Guidance on repair welding is also provided by Paragraph IWA-4120. IWB-4320 provides the nondestructive examination requirements for the welded repair in question while IWA-4400(c) provides the hydrostatic testing requirements.

The component to which this relief request applies, the upper east secondary side manway cover to VEGP-2 steam generator 2-1201-B6-001, was fabricated to the 1971 Edition of ASME Section III with Addenda through Summer 1972. As a result, the repair and NDE requirements of ASME Section III should apply. Due to a code misapplication, the welded repair of the manway cover to remove two steam cuts and the resulting NDE were performed in accordance with the requirements of the 1989 Edition of the ASME Section XI Code with Addenda through 1990. Not only was there a code misapplication, the version of the ASME Section XI Code which was utilized for the repair, the 1989 edition with addenda through 1990, is not an approved version under the present requirements of 10 CFR 50.55a.

Relief is requested from the repair requirements (IWA-4120) of the ASME Section XI Code, 1983 Edition with Addenda through Summer 1983, for the repair of the upper east secondary side manway cover on steam generator 2-1201-B6-001, including the NDE and hydrostatic test requirements (IWB-4320 and IWA-4400(c), respectively) for the repaired component under that particular edition and addenda of the Code. In addition, NRC concurrence on the adequacy of repairs utilizing the 1989 Edition of the ASME Section

VEGP-2, RR-58

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Requirement from which Relief is Requested (continued)

XI Code with Addenda through 1990 is requested, albeit after the fact, in accordance with 10 CFR 50.55a(a)(3)(i).

Basis for Relief

Two steam cuts in the upper east secondary side manway cover on steam generator 2-1201-B6-001 were repaired by welding during VEGP-2 Maintenance/Refueling Outage 2R3 in September 1993. The steam cuts were located approximately 180 degrees apart in the gasket seating surface. A temper bead welding technique was utilized for repair of the affected manway cover which is fabricated from SA-508, Class 2A. The manway cover is approximately 23" in diameter and 3" thick in the repair areas. One of the repaired areas measured approximately 3-3/4" long x 3/4" wide x 0.122" deep while the second area measured approximately 1-3/16" long x 9/16" wide x 0.049" deep. The welded repair was elective since the steam cuts could have been removed solely by machining. Instead of machining the manway cover to remove the two steam cuts, a welded repair was chosen since it was desired to conserve section thickness for any future machining.

Because an approved weld procedure specification for the base material involved was not available on-site, an outside vendor was selected to perform the repair. The vendor agreed to perform the repair under its NR stamp utilizing ASME Section XI, 1983 Edition with Addenda through Summer 1983, which is the code version to which VEGP-2 is currently committed for performing inservice inspection/testing, including repair and replacement activities. Upon review of that version of the code, the vendor identified a requirement for volumetric examination and hydrostatic test of the welded repair and requested permission to use the 1989 Edition of ASME Section XI with Addenda through 1989. The vendor was granted permission to use the later edition and addenda of the ASME Section XI Code. Repair activities were completed by the vendor on September 18, 1993. A magnetic particle (MT) inspection of each weld layer, including an MT of the as-machined condition, was performed by the vendor. The repair and resulting NDE were documented by the vendor on an ASME Form NR-1 Report. Repair activities were inspected by an Authorized Nuclear Inspector (ANI) who was utilized by the vendor. The vendor returned the repaired manway cover to VEGP on September 19, 1993. On September 21, 1993, VEGP Quality Control (QC) personnel performed a liquid penetrant (PT) examination of the repaired manway cover. The results of the PT examination performed by VEGP QC personnel were satisfactory and the manway cover was reinstalled by maintenance personnel.

VEGP-2, RR-58

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Basis for Relief (continued)

Subsequent review of the completed maintenance work order (MWO) by the Authorized Nuclear Inservice Inspector (ANII) utilized on-site at VEGP indicated there was a problem associated with the repair. Specifically, the ANII questioned why a hydrostatic test had not been performed and the MWO was returned to the appropriate plant site department for resolution. A detailed review was then performed regarding ASME Section XI Code requirements for pressure testing. Subsequently, site personnel contacted the vendor who indicated that repairs had been performed to the 1990 Addenda to the 1989 Edition of ASME Section XI rather than to the 1989 Addenda. The later addenda, i.e., the 1990 Addenda, was preferred for use since there are differences between the NDE requirements for the 1989 and 1990 addendum. The following problems were observed:

1. The 1989 Edition with 1989 Addenda of the ASME Section XI Code for which the vendor had received authorization to use was not a version of the code approved by the NRC for use. Neither was the 1990 Addenda to that particular edition of ASME Section XI to which the repair was ultimately performed. At the time of the repair, only the 1989 base code of both ASME Section III and Section XI had been approved by the NRC for use. 10 CFR 50.55a specifically identifies the edition and/or addenda of both ASME Section III and Section XI which the NRC has approved for use, and
2. The vendor took credit for a change to ASME Section XI which did not appear until the 1990 Addenda. Use of the 1990 Addenda was not reflected on the original ASME Form NR-1 Report provided to VEGP. The ASME Form NR-1 Report was later revised to reflect the use of the 1990 Addenda to the 1989 Edition of ASME Section XI and performance of the PT examination of the repaired manway cover by VEGP QC personnel.

Had the 1989 Edition of ASME Section III been used for the repair as it should have, NDE similar to that required by the 1989 Edition of ASME Section XI with Addenda through 1990 would have been performed except that a volumetric examination, i.e., either radiography (RT) or an ultrasonic (UT) examination, would have been required after the repair was completed. Had the repair been performed under the 1989 base version of ASME Section XI, the NDE requirements would have included UT, PT, and RT examinations. In addition, a hydrostatic test would have been required. Similar requirements would have been imposed had the 1983 base version of ASME Section XI

VEGP-2, RR-58

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Basis for Relief (continued)

been utilized for the repair. It should be noted that the 1989 Addenda retained similar NDE requirements; however, that addenda dropped the hydrostatic test requirement from the ASME Section XI Code. None of the NDE required under the 1989 base version of ASME Section XI were performed. The 1990 Addenda to which the repair was performed changed the NDE requirements and allows exemption from the volumetric examination, i.e., either RT or UT, provided that each weld layer is examined using MT. In addition, the 1990 Addenda requires that a surface examination, i.e., either MT or PT, be performed 48 hours after the weld repair reaches ambient temperature. As noted above, MT was performed on each weld layer and in the as-machined condition by the vendor who performed the repairs. In addition, the surface examination of the weld repair 48 hours after the weld repair reached ambient temperature was performed by VEGP QC personnel and produced satisfactory results. Even though there was a misapplication of the ASME Code, the requirements of the ASME Section XI Code, 1989 Edition with Addenda through 1990 were met when performing the repair of the manway cover. The repair, as performed, does not pose any structural concern because it is a minor local repair which yields no significant reductions of design margins.

An independent review was conducted by an outside consultant subsequent to the repair of the affected manway cover and it was determined that all of the requirements of the 1989 Edition of ASME Section XI with Addenda through 1990 had been met.

In an effort to help preclude any future possible misapplication of the ASME Code requirements, the following corrective actions are planned:

1. Revise appropriate plant procurement procedure(s) to include the following:
 - a. Include 10 CFR 50.55a in the required reading material for the procedure concerning the certification of Material Support Department Qualified Reviewers, and
 - b. Provide guidance when specifying code years for repair services in the procedure concerning requisition review for technical and quality requirements.
2. Conduct training/discussion within the plant Maintenance Engineering group to provide details on this incident with the objective of increasing personnel awareness.

VEGP-2, RR-58

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Basis for Relief (continued)

The imposition of the requirements of the 1989 Edition of ASME Section III or Section XI would not provide any commensurate increase in the level of safety over that provided by the 1989 Edition of ASME Section XI with Addenda through 1990. As a result, NRC concurrence on the adequacy of repairs utilizing the 1989 Edition of the ASME Section XI Code with Addenda through 1990 is requested in accordance with 10 CFR 50.55a(a)(3)(i).

Alternate Examination

No alternate examinations are proposed since the repairs performed and their resulting NDE meet the requirements of the ASME Section XI Code, 1989 Edition with Addenda through 1990.