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RECIP.NAME RECIPIENT AFFILIATION
LINVILLE,J.C. Region 1 (Post 820201)

SUBJECT: Responds to NRC ltr re violations noted in insp rept 50-244/92-09 on 920814.Corrective actions will be implemented during 1992 outage.

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November 20, 1992

U.S. Nuclear Regulatory Commission
Region I
Attn: James C. Linville
Chief, Projects Branch No. 3
Division of Reactor Projects
475 Allendale Road
King of Prussia, PA 19406

Subject: Response to NRC Inspection Report
50-244/92-09
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Ref.(a): Letter from J. C. Linville, NRC, to R. C. Mecredy, RG&E, Subject: Ginna Inspection 92-09 dated August 14, 1992

Dear Mr. Linville:

Reference (a) transmitted the inspection findings of Messrs. T. Moslak, E. Knutson, H. Kaplan and A. Lohmeier of the NRC Region I staff concerning the long term integrity of the repairs made to the Preseparator Drain Tanks (PDT) in the non-safety related portion of the turbine plant. This letter responds to the findings in section 6.1.4 of the report.

The inspection report identified five concerns relative to the long term integrity of the repairs made in June. Each of those concerns is addressed below.

The first concern related to the use of ASME Boiler and Pressure Vessel Code Section VIII (ASME VIII) rules to provide a measure of confidence in the design, materials, and fabrication used. While it is true that the Moisture Separator Reheaters (MSR's) were designed to ASME VIII, the Preseparator Drain Tanks (PDT's) were originally considered governed by ASME/ANSI Power Piping Code B31.1 (B31.1). They were fabricated of standard piping components and analyzed in the installed configuration as part of the attached piping system in EWR 3100 Stress Analysis Document Number 50300219, revision 0, dated 4/11/83. The fabrication rules of ASME VIII specified by Brown-Boveri to its sub-contractor in the tank drawing were supplemental to RG&E criteria.

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The introduction to B31.1, 1980 Edition, states that it is the intention that a designer capable of applying more complete and rigorous analysis to special or unusual problems shall have latitude in the development of such approaches provided that the approach is not specifically prohibited by the code. The designer is responsible for demonstrating the validity of the design. The design approach for the short term repair was examined under this provision in design analysis DA-ME-92-001-01, revision 0, dated 6/10/92; DA-ME-92-003-03, revision 0, dated 6/11/92, and DA-ME-92-004-04, revision 0, dated 6/11/92, prior to turnover to the plant for use. The approach was also examined independently in August, 1992 in Altran Corporation calculation 92140-C-01, revision 1, and found acceptable for the period until the 1993 refueling outage. The long term strategy considered converting the governing code to ASME VIII, but determined that maintaining B31.1 is appropriate, since a complete replacement of the components within the piping system is being performed.

The report also raised three concerns on elements of the RG&E analyses identified above. These concerns were on the weld efficiency factor, the interaction of the failed tank wall and reinforcement plate in carrying stress, and the treatment of bending. The report maintained that other judgements could have been made utilizing the same analytical technique that result in potential for failure of the repair. To resolve these viewpoints, RG&E requested that Altran utilize an alternate analytical method (finite element) to judge the adequacy of the short term repair. The alternate approach determined that the stresses of the tanks are acceptable with the repair plates and welds used. The long term action will consist of replacing the tanks with designs recognized by B31.1.

The final concern related to providing mitigation for the cause of the failure. Since the inspection report concluded that flow impingement was the cause, additional material or a sacrificial plate to absorb the erosive effect of the impinging fluid was suggested. The goal of the current short term repair was to allow for operation to the 1993 outage while evaluating and implementing the long term strategy. The predicted life of the temporary repair is being monitored by monthly UT measurements of the reinforcement plate that covers the failed portion of the tank wall. During the 4 months of operation since the repair, the inspections have shown that the life of the temporary repair will exceed the 1993 refueling outage target. An RG&E analysis (DA-ME-92-021-05, revision 0, dated 7/30/92) and an Altran Technical Report (92140-TR-01, revision 0, dated July, 1992) concluded that the root cause was a combination of impingement and erosion/ corrosion. The long term repair incorporates a combination of a tank wall material change and internal flow redirection to mitigate both causes.

The inspection report indicates that only after the inspectors had identified their concerns, that RG&E indicated the repairs are only temporary and that final corrective action would be implemented during the 1993 outage. RG&E Design Analysis DA-ME-92-002-02, revision 0, dated 6/11/92, identified that the basis of the current repair included a timeframe through the 1993 refueling outage so that long term repair techniques could be identified and evaluated. Our long term strategy has since been identified, evaluated and approved via the EWR 3100E Conceptual Design package dated 8/17/92.

Currently the PDT replacement design and fabrication is progressing to support a 1993 refueling outage installation.

RG&E engineers are available to discuss this matter further in a meeting between RG&E and NRC personnel. We believe that a meeting is desirable to clarify any misunderstandings of the design intent or details for the temporary repairs or long term replacement. Please contact Mr. George Wrobel (716-724-8070) to arrange this meeting.

Please feel free to contact me if we can be of further assistance in this matter.

Very truly yours,

Robert C. Mecredy

Robert C. Mecredy

TEN/264

xc: Mr. Allen R. Johnson (Mail Stop 14D1)
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Washington, D.C. 20555

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Ginna Senior Resident Inspector