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JOHNSON,A.R. Project Directorate I-3

SUBJECT: Forwards update of status of actions in response to violations,deficiencies & unresolved items noted in SWSOPI Rept 50-244/91-201.Design Analysis NSL-0000-DA043, "SWS Check Valve Passive Failure" completed & approved on 920914.

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September 30, 1992

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Allen R. Johnson
PWR Project Directorate I-3
Washington, D.C. 20555

Subject: Status of Actions in Response to SWSOPI Violations, Deficiencies, and Unresolved Items
Inspection Report 50-244/91-201
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Johnson,

In Reference (a) RG&E committed, by the end of the third quarter 1992, to provide an updated status of RG&E actions taken or planned in response to the items identified in Appendix A of Reference (b). Appendix A of Reference (b) identified a total of 15 items; 4 were identified as Deficiencies, 5 were identified as Unresolved items, and 6 were identified as Observations. Three of these resulted in Violations as documented in Reference (c). Since the issuance of Reference (b) and the subsequent Notice of Violations, Reference (c), RG&E has expended a significant effort toward resolution of the open issues identified during the SWSOPI Team Inspection.

As acknowledged by the NRC in Reference (c), all identified items, weaknesses, and observations related to the SWSOPI are being tracked in our Commitment and Action Tracking System to assure formal resolution of these matters. Since the completion of the team inspection, RG&E has been tracking the progress of 62 commitments or action items resulting directly from the SWSOPI or related to it. Currently, 35 of these have been closed by RG&E and 27 remain open in various stages of completion. In addition, during the week of August 17, 1992, NRC staff performed a follow-up inspection during which RG&E provided information and status of RG&E actions for the three violations (91-201-01, 91-201-11, and 91-201-14) and two of the unresolved items (91-201-04 and 91-201-15). Since NRC documentation of the results of that inspection (designated 50-244/92-012) has not as yet been received, this letter provides the status of all the 15 deficiencies, unresolved items, and observations identified in Appendix A of Reference (a).

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The status of these items is enclosed as Attachment A. References are located at the end of the Attachment.

Very Truly Yours,

Robert C. Mecredy

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U.S. NRC Ginna Senior Resident Inspector

text/gah/cat2224

ATTACHMENT A

A) The items reviewed during inspection 92-012 are as follows: (RG&Es tracking numbers appear in brackets)

Deficiency 91-201-01 - Inadequate Design Document Control and Verification [This became Violation A in Reference (c)]

The service water hydraulic model (Calc. No. 9608-M-01) originally prepared by NUS Corp. was reviewed and approved by RG&E on 6/22/92 in accordance with Engineering procedure QE-704, Review and Approval of Vendor Design and Manufacturing Technical Documents.This item is complete. [R01924]

In an electrical engineering design memorandum dated May 26, 1992, the Design Analysis, EWR 4232,"Insitu Motor Load Determination", was voided. The current loadings for the service water motors resides within EWR 5051 Design Analysis #1 and was so noted in the appropriate design files. This item is complete. [R01926]

The Design Analysis, "Containment Fan Cooler Air Flow", NSL-3689-DA046, was updated to Revision 1 and approved on 4/30/92. This item is complete. [R01927]

The Bechtel/KWU analyses for the heat exchanger inspection and refurbishment project were formally approved by RG&E on 8/25/92. This involved the following analyses:

- "Report of Expandable Plug (Pop-A-Plug) Acceptability for Component Cooling Water Heat Exchangers", dated 3/3/89
- "Report of Welded Plug Acceptability for Residual Heat Removal Heat Exchangers, Spent Fuel Pool Heat Exchanger, and Non-Regenerative Heat Exchanger", dated 3/2/89
- Letter from W. J. Paproth (B/KWU) to G. Eng (RG&E), "Tube Plugging Criteria", dated 2/29/89

- Summary Data Sheet, "Heat Exchanger Tube Plugging Criteria - Allowable Tube Wall Degradation for Continued Service", dated 2/24/89

- Report entitled "Discussion of Wall Degradation Phenomena of Cooler Tubes", dated 2/21/89

- Report entitled "Allowable Wall Degradation of Cooler Tubes", dated 2/21/89

- "Report of Heat Load Capacity/Design Margin Analysis for Residual Heat Removal Heat Exchangers, Component Cooling Water Heat Exchangers, and Spent Fuel Pool Heat Exchanger", Revision 0, dated 1/24/89

- "Report of Heat Load Capacity/Design Margin Analysis for Residual Heat Removal Heat Exchangers, Component Cooling Water Heat Exchangers, Spent Fuel Pool Heat Exchanger, and Non-Regenerative Heat Exchanger", Revision 1, dated 2/22/89

This item is complete. [R01925]

RG&E Design Analysis 4658-ME-009, "Minimum Diesel Generator Cooler and Lube Oil Cooler Water Flow Requirements", was updated to Revision 1, dated 7/7/92. This item is complete. [R01928]

Several other hydraulic computer models previously completed, that had not been formally approved in accordance with QE-704 (although they had been reviewed by RG&E) have been approved. They were as follows:

- "Ginna ECCS (Emergency Core Cooling System) Hydraulic Analysis", NUS Calc. No. 3S61-M-10, Revision 1, dated 3/11/91, approved 9/10/92;

- "RG&E Standby Auxiliary Feedwater Hydraulic Model", NUS Calc. No. 2502-M-02, Revision 0, dated 3/8/91, approved 9/8/92;

- Design Analysis "Hydraulic Model of Auxiliary Feedwater System", NUS Calc. No. 0499-M-02, Revision 3, dated 9/15/92, approved 9/15/92;

- "RG&E Ginna Component Cooling Water Hydraulic Model", NUS Calc. No. 2502-M-01, Revision 0, dated 4/4/91, approved 9/25/92.

This item is complete. [R02283]

RG&E committed in Reference (h) that any analyses performed by RG&E or that were in process which were based upon values from the preliminary service water hydraulic model report and that potentially could affect plant design would be re-examined and revised as necessary to cite and reference the RG&E approved report. We believe there is only one such analysis in this category and we have determined that the use of the preliminary hydraulic model in this analysis would not affect plant operation. This item remains open and will be completed shortly. [R02282]

The failure to properly review and control engineering documents was identified as deficiency 91-201-01. This was cited as Violation A in Reference (c). In response, Reference (h), RG&E stated that the objective of one of RG&Es Process Upgrade Program Focus Areas, Document Control, is to enhance the document control process to ensure that appropriate documents are controlled and that they are retrievable, accessible, current, and relevant. One of the tasks within the focus area is to enhance the control methodologies for vendor generated documents. Our completion of the Process Upgrade Program, which began in June 1991, should not be considered as a required element to achieve regulatory compliance within the context of

Violation A. We expect to make additional changes to improve our process, however, the changes necessary to resolve the cause of the violation have been made. A record of improvements to the Process upgrade will continue to be tracked within our Commitment and Action Tracking System, but is considered complete relative to this violation. [R01929]

Unresolved Item 91-201-04 - Reclassification of Spent Fuel Pool Heat Exchanger A as not Safety-Related

RG&E stated in Reference (a) that the classification of this heat exchanger is safety-related. Heat exchangers have both shell-side and tube-side pressure boundaries. There are component functions associated with spent fuel pool cooling which are classified as safety significant, whereas, the pressure boundary function associated with the heat exchanger, and the overall classification of the heat exchanger, had always been classified as safety class 3 (SC-3). This is identified within the Ginna Master Equipment DataBase (GMEDB). Since RG&E has chosen to reflect the heat exchanger on the P&IDs for both the spent fuel pool cooling system and service water system, we are adding informational notes on these drawings which make reference to the other corresponding drawing. Nonetheless, the appropriate safety class has been identified and designated and hence this item is complete. [R01932]

Deficiency 91-201-11 - Inaccurate UFSAR Information [This became Violation B in Reference (c)]

RG&E actions related to this item involved updating particular sections within the UFSAR, revising procedure A-601.8, "Procedure Change Control - 10CFR50.59 Review", to include a check step for UFSAR impact, and implementing procedure A-65 (Ginna procedure which parallels engineering procedure QE-334) for preparation, review, and approval of UFSAR changes.

RG&E will be updating several sections within the service water section of the UFSAR in the December 1992 UFSAR update. The sections affected are 9.2.1.2.1, 9.2.1.3, and Table 9.2-2. This item is open. [R01936]

Revision 5 of procedure A-601.8, "Procedure Change Control - 10CFR50.59 Review", was made effective 7/29/92 (PCN 92-5218), which further clarified the process required for implementing UFSAR changes due to PCNs. This item is complete. [R02288]

Procedure A-65 Revision 0, "Preparation, Review, and Approval of Changes to the UFSAR", which is a Ginna Station procedure that was written to parallel engineering procedure QE-334, was made effective 8/13/92. This item is complete. [R02289]

Deficiency 91-201-14 - Preoperational Test Anomalies [This became Violation C in Reference (c)]

RG&E responded to this violation by Reference (h). Reference (i) was forwarded to RG&E in response, and acknowledged RG&Es corrective actions. RG&Es corrective actions relative to this issue involve previous discussions in Reference (a) [91-201-08 and 91-201-06] and analyses that showed that, from an accident analysis standpoint, the pre-operational test configuration is bounding. Our analysis completed under deficiency 91-201-08, "Long Term Containment Response to LBLOCA with One Service Water Pump Operating" supports the bounding case where only one service water pump is available during the injection and recirculation phases. This item is complete. [R01939]

Unresolved Item 91-201-15 - Practice of Performing Surveillance Testing While Simultaneously Taking Redundant Equipment Out of Service

RG&E responded to this item in Reference (a), section D. as follows: It has been RG&Es philosophy to not perform surveillance testing of equipment, while redundant equipment is out of service. RG&E committed to revise its administrative procedures to reflect this philosophy. Procedure A-1101, "Performance of Tests", provides for specific and stringent controls to ensure that, if equipment is taken out of a configuration wherein it could automatically perform all of its safety functions during the test, compensatory measures are taken.

Since then, procedure A-1101 Revision 16 was made effective 5/5/92. This revision includes this surveillance test policy. This item is complete. [R02223]

B) The current status of the Unresolved Items and Deficiencies that were not reviewed during the follow-up inspection 92-012 are discussed below.

Unresolved Item 91-201-02 - Reassessment of Service Water System (SWS) Hydraulic Model

In Reference (b) the NRC stated that "the SWS hydraulic model developed in support of EWR 1594 (Spent Fuel Pool Heat Exchanger Replacement) was reviewed and found to be relatively accurate for most of the process equipment and piping. The major limitation associated with the model was the limited amount of actual plant data used to verify the flow resistance."

In response RG&E committed to 1) evaluate/test the diesel generator cooler performance and determine the optimum flow [R01958]; 2) enhance the analytical modeling and capability of the existing hydraulic model so that an analytical basis and test specification for the re-balance of the SWS is available prior to the 1993 refueling outage [R01959]; and 3) conduct testing as required during the 1993 outage to confirm the analytical results of the enhanced model and to set optimal flows for each SW cooler so that the SWS flow balance will be optimized when the plant returns to power following the 1993 outage. [R01960]

In a letter, Reference (d), RG&E indicated that the existing service water system flow balance to the emergency diesel generator coolers was satisfactory and that no change was warranted at this time, however, the overall SWS flow balance continues to be planned for the 1993 outage.

In addition, by Reference (e) RG&E committed to perform pilot thermal performance testing of the diesel generator coolers during the summer of 1992 based upon the existing system instrumentation [R02438], evaluate these results [R02440], and commence periodic thermal performance testing during the summer of 1993 to coincide with the highest lake water temperatures [R02439]. The pilot testing has been completed and the results are being reviewed by engineering and plant staff.

ATTACHMENT A

Unresolved Item 91-201-07 - Failure to Consider Single Failure of Pump Discharge Check Valve

A concern was raised during the SWSOPI that with SWS cross-connected configuration the entire SWS could be rendered inoperable during a safety injection actuation if the discharge check valve for one of the SW pumps failed to close upon system realignment. This scenario was identified, but not appropriately analyzed, in a single failure report developed by Altran.

In response RG&E instituted interim measures to alert operations staff to this potential event, developed a means of prompt detection, and identified mitigating actions. RG&E reported that the passive failure represented by this scenario is comparable to other such passive failures which have an adverse effect on a flow path. The Ginna plant is a single active failure plant, however, passive failures such as this are considered in the Ginna Probabalistic Risk Assessment(PRA) currently under development by RG&E. Based on the results to date, the consequences of a SW pump discharge check valve failure to close is bounded by other comparable SWS single passive failures in the PRA.

Preliminary studies were performed using the SWS hydraulic model and RG&E indicated in Reference(a) that a flow complement in excess of one pump's flow would exist for this postulated failure. RG&E committed to formalize this analysis. [R01933]

A Design Analysis, "SWS Check Valve Passive Failure", NSL-0000-DA043, was completed and approved 9/14/92. The analysis confirmed the preliminary results reported earlier that the flow delivered to the SW system when postulating a stuck open SW pump discharge check valve would exceed the flow delivered from one pump operation. Therefore, this postulated event is bounded by the single failure of one emergency diesel generator which is the limiting failure assumed for accident analysis.

RG&E also committed to re-review the Altran Report 90121.6 "Single Failure Analysis of the R.E. Ginna Service Water System",Rev.1, dated Nov. 18,1991 to ensure that single failures had been appropriately analyzed. [R01961] RG&E has contracted with Altran to re-review this report with the expected completion scheduled in the first quarter of 1993.

ATTACHMENT A

Deficiency 91-201-08 - Inconsistency Between Licensing Basis and SW Pump TS Operability Requirements

This deficiency was identified during the SWSOPI because existing Tech Spec 3.3.4 only requires one loop header and two service water pumps to be operable. According to the UFSAR, two service water pumps were assumed during the post-accident recirculation phase. However, the Tech Spec requirements, given a single failure of a pump or emergency diesel generator, are not sufficient to ensure that two pumps would be available during recirculation.

As a result of this deficiency RG&E instituted a three pump Tech Spec administratively controlled to maintain three pumps operable or be in hot shutdown in 6 hours. Preliminary analyses were performed and it was reported in Reference (f) that acceptable conditions would prevail within containment and for the component cooling and residual heat removal systems, using only one service water pump for both post LOCA injection and recirculation phases. RG&E committed to formalize this analysis and report the results to the NRC. [R01934]

RG&E submitted the results of this analysis by Reference (g) in a summary report entitled, "Long Term Containment Response to LBLOCA with One Service Water Pump Operating". The analysis demonstrated acceptable containment response and accident mitigation using a single service water pump and confirmed the adequacy of the current Technical Specification requiring two SW pumps operable. Consequently, the RG&E actions necessary to support resolution of this deficiency have been completed.

Unresolved Item 91-201-12 - Failures to Establish Low-Pressure SWS Setpoint

In the review of the operations procedures during the SWSOPI, it was noted that in AP-SW.1 "Service Water Leak", operators were directed to initiate actions should SWS header pressure be 40 psig or less. There was no engineering basis for this setpoint that was chosen as a best estimate.

RG&E committed to establish an appropriate low-pressure setpoint and formally document it [R02225]. The basis for the established setpoint would then be incorporated into plant procedures as may be appropriate. [R02226]

RG&E has reviewed the SWS operation with respect to the 40 psig low-pressure setpoint. The SWS pressure has been trended over the past year. System operating pressure varies depending on whether two or three SW pumps are in operation. We have determined that a setpoint of 40 psig is sufficient under accident or transient conditions to ensure that adequate service water flow would be provided to the required service water loads. However, we believe that improvement can be achieved by establishing a setpoint that varies depending on parameters such as lake temperature. Engineering and operations staff are working toward developing administrative controls over the setpoint alarm limit and expect completion by the end of 1992.

C) As previously indicated, the remaining items in Appendix A of Reference (b) were identified as Observations and are being tracked to completion within our Commitment and Action Tracking System. These items are listed below.

Observation 91-201-03 - Component Cooling Water Heat Exchanger Vibration Potential - RG&E actions to determine the potential for flow induced vibration are scheduled to be complete by 10/30/92. [RO1930] The heat exchanger manufacturer is performing their standard shell side flow induced vibration computer run for the CCW heat exchangers.

Observation 91-201-05 - Formalize Preliminary Analyses Developed During Inspection - The remaining issue involves preparation of a design analysis the formalize the assessment of the containment air cooler (CAC) unit condensate drainage system [RO1943]. RG&E preparation of this for the current CAC design has been deferred, since design efforts have been underway for replacement of these units with a new design to support the 1993 refueling outage. Since the decision to replace these units during the 1993 outage has not as yet been finalized, the drainage analysis for the current design will be finalized (or cancelled) at that time.

Observation 91-201-06 - Submittal of Revised Containment Analysis - RG&E actions to complete this item are scheduled for 12/31/92, and will combined with our submittal on the boron concentration reduction analysis. [R01944]

Observation 91-201-09 - Weaknesses in GL 89-13 Implementation - Six actions remain to be completed, with the final action scheduled during the 1993 refueling outage. These actions involve establishing a heat exchanger maintenance frequency basis [R01966], developing a list of stagnant flow case recommendations [R01965], developing an erosion/corrosion program for the SWS [R01968], conducting underground piping inspections [R01969], and revising the Service Water System Reliability Optimization Program (SWSROP) Plan to incorporate the GL 89-13 Recommended Action I and III activities. [R01964 and R01967]

Observation 91-201-10 - Letter to Clarify SEP SER Inaccuracies - RG&E actions on this item have been completed as submitted by Reference (f). [R01935]

Observation 91-201-13 - Pump Maintenance Practices - RG&E actions on this item have been completed as discussed in Reference (a). [R01938]

D) The schedules originally established for completion of the SWSOPI issues have been adhered to with few exceptions. As is our policy with respect to extending committed dates, we have notified you in these instances. The thermal performance testing of the SWS heat exchangers discussed in Reference (e) has been underway. Testing of the containment air coolers (CACs) for train 'A' was performed, but will need additional testing to achieve more desirable temperature differentials across the coolers. Therefore, the tests planned for the standby auxiliary feedwater (SBAFW) pump room coolers scheduled for 10/1/92 [R02436] will have to be delayed in order to take advantage of the lessons learned from the CAC testing. For example, summertime temperatures are not essential to the performance of these tests. We expect to perform the testing for the SBAFW room coolers by December 1992 after which the thermal performance tests and schedules are to become incorporated into the SWSROP Plan as originally intended. The testing for the CACs is being deferred, since the CACs are scheduled to be replaced during the 1993 refueling outage.

ATTACHMENT A

References:

(a) Letter from RG&E, R. C. Mecredy to S.A. Varga, NRC, Subject:Response to SWSOPI 91-201, dated April 6,1992

(b) Letter from S.A. Varga, NRC to R.C. Mecredy, RG&E, Subject:Service Water Operational Inspection (SWSOPI) Report, 50-244/91-201, dated January 30,1992

(c) NRC Inspection Report 50-244/92-02 (1/19/92 - 3/9/92), dated March 26,1992 with Notice of Violations

(d) Letter from R. C. Mecredy, RG&E, to A. R. Johnson, NRC, Subject:Re-balancing of Flows to Safety-Related Coolers, dated July 2, 1992

(e) Letter from R. C. Mecredy, RG&E, to A. R. Johnson,NRC, Subject:Schedule for Thermal Performance Testing of Service Water Heat Exchangers, dated June 1, 1992

(f) Letter from R. C. Mecredy, RG&E, to A. R. Johnson, NRC, Subject:SEP Topic IX-3, dated 4/9/92

(g) Letter from R.C. Mecredy, RG&E, to A.R. Johnson, NRC, Subject:Response to Deficiency 91-201-08, dated September 1, 1992

(h) Letter from R. C. Mecredy, RG&E, to J. C. Linville, NRC, Subject:"Response to Notice of Violations - NRC Inspection Report 50-244/92-02 (1/19/92 - 3/9/92), dated March 26, 1992", dated May 4, 1992

(i) Letter from C. W. Hehl, NRC, to R. C. Mecredy, RG&E, Subject: Inspection Report 50-244/92-02 dated July 21, 1992