a joint venture of

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December 9, 2009

U. S. Nuclear Regulatory Commission Washington, DC 20555 - 0001

ATTENTION: Document Control Desk

SUBJECT: R.E. Ginna Nuclear Power Plant Docket No. 50-244

Reply to a Notice of Violation; EA-09-249

REFERENCE: Letter from Mr. S. J. Collins (NRC) to Mr. J. T. Carlin (Ginna) dated November 12, 2009, FINAL SIGNIFICANCE DETERMINATION OF WHITE FINDING, WITH ASSESSMENT FOLLOW-UP, AND NOTICE OF VIOLATION – R.E. GINNA NUCLEAR POWER PLANT (NRC Inspection Report No. 05000244/2009008).

This letter provides the R.E. Ginna Nuclear Power Plant, LLC (Ginna LLC) response to the referenced letter, which identified a Notice of Violation associated with a failure to preclude recurrence of a significant condition adverse to quality associated with the turbine driven auxiliary feedwater pump governor control valve, that led to a failure of the TDAFW pump to operate on July 2, 2009. Ginna LLC agrees with the violation and has taken corrective steps to prevent further violations.

The attachment to this letter provides the Ginna LLC detailed response to the violation. In accordance with 10 CFR 2.201, this response describes the reason for the violation, the corrective steps that have been taken and results achieved, the corrective steps that will be taken to avoid further violations, and the date when full compliance will be achieved.

If you should have any questions regarding this submittal, please contact Mr. Thomas Harding at (585) 771-5219, or via email at <u>Thomas.HardingJr@cengllc.com</u>.

Very truly yours, En G Jam

John T. Carlin

Attachment: REPLY TO A NOTICE OF VIOLATION; EA-09-249

IE01

cc: S. J. Collins, NRC D. V. Pickett, NRC Ginna Resident Inspector, NRC P. D. Eddy, NYSDPS

ATTACHMENT

REPLY TO A NOTICE OF VIOLATION; EA-09-249

I. NOTICE OF VIOLATION

10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," states, in part, "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."

Contrary to the above, after identifying corrosion on the turbine-driven auxiliary feed water (TDAFW) pump governor control valve stem on April 11, 2005, a significant condition adverse to quality, R.E. Ginna Nuclear Power Plant, LLC did not take adequate measures to determine the cause and prevent recurrence. The cause of the condition was left uncorrected and resulted in additional stem corrosion that led to binding of the governor control valve and the failure of the TDAFW pump on July 2, 2009.

This violation is associated with a White SDP finding.

II. REASON FOR THE VIOLATION

After identifying corrosion on the Turbine Driven Auxiliary Feedwater (TDAFW) Pump Governor Control Valve (V-9519E) stem during the 2005 Refueling Outage (RFO), adequate measures were not taken to determine the cause of the corrosion and prevent recurrence. The cause of the corrosion was left uncorrected and resulted in stem corrosion that led to binding of V-9519E, which caused the failure of the TDAFW Pump on July 2, 2009.

The failure occurred while the plant was in Mode 1, with reactor power at approximately 100% and Main Steam header pressure at approximately 770 PSIG. While testing was being performed per STP-O-16-COMP-T (flow into the Steam Generators), the TDAFW Pump tripped on overspeed. Videos and UDS valve traces indicated the cause of the problem was a degraded Oil Relay Valve (OP/RLYVLV) or V-9519E. Troubleshooting Plans were developed and resulted in testing of the OP/RLYVLV and V-9519E response to simulate changes in demand from the TDAFW Pump Governor (SAF03). Upon disassembly of V-9519E per Work Order (WO) C20900344, the stem was found seized within the bushings. Visual inspection showed pitting on the surface of the stem where it contacts the upper valve bushing. The corrosion caused the stem to bind within the bushings, causing the control of steam to the turbine to be lost, and resulted in the overspeed trip.

During the Root Cause Analysis (RCA) of the overspeed trip, it was discovered that the stem was pitted during performance of the last major inspection of V-9519E per Work Order (WO) C20401907 performed in 2005. Per a Vendor Representative recommendation, a replacement stem was installed. The stem replacement was the corrective action to the noted degradation. However, the condition was not entered into the Corrective Action Process (CAP) to document

the condition or to take other action to determine the cause of the pitting, and no corrective actions to prevent recurrence were identified and instituted. Based on interviews, if this condition was identified today, current site practices would result in the condition being entered into the CAP to document the problem and initiate corrective actions as appropriate.

III. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

The following is a summary of the actions immediately taken following the July 2009 failure:

- 1. The stem of V-9519E was replaced with a spare.
- 2. The Relay valve (OP/RLYVLV) was removed, inspected, and re-assembled with no anomalies and no foreign material found per WO C90471610.
- 3. The TDAFW Pump steam traps were inspected using a boroscope, compressed air, and other visual methods of inspection. No anomalies were found per WO C90471684.
- 4. A slow speed start of the pump was performed by manually opening the Trip and Throttle Valve (V-3652) while monitoring turbine speed. Speed was increased in 500 RPM increments until SAF03 took control of turbine speed. No anomalies were noted during this slow speed start and all equipment behaved as expected.
- 5. The pump was tested using both PT-16Q-T (recirculation flow) and STP-O-16-COMP-T (flow into the Steam Generators) with no abnormalities noted.
- 6. The TDAFW Pump was restored to operable status.
- 7. Compensatory measures of increased test frequency coupled with video and UDS monitoring of SAF03 and V-9519E has continued since the July 2009 failure.

The following is a summary of the actions taken during the 2009 Refueling Outage (RFO) following the July 2009 failure:

- 1. The stem and bushings of V-9519E were inspected. The stem and bushings were replaced due to minor pitting and to allow for destructive testing of the components to aid in the validation of the corrosion rate correlation. Additional inspections of the valve internals will be conducted until enhanced materials are installed that are less susceptible to the corrosion that caused the stem binding in July 2009.
- 2. The Steam Admission Motor Operated Valves (MOV's), MOV-3504A and MOV-3505A, were overhauled to reduce the amount of steam leakage into the system during standby operation.

3. A detailed inspection of the control linkage was conducted with no abnormalities noted.

4. Increased frequency testing of the pump and control valve have continued.

The adequacy of the before mentioned corrective actions discussed above with respect to equipment reliability of the TDAFW Pump is demonstrated by the seventeen (17) successful pump starts since the July 2009 failure.

IV. <u>Corrective Steps That Will be Taken To Avoid Further Violations</u>

The following is a summary of the action that will be taken to prevent recurrence:

- 1. The stem and bushings of V-9519E will be replaced with enhanced materials that are less susceptible to the corrosion that caused the original stem binding.
- 2. The Preventative Maintenance (PM) frequency of the inspection of V-9519E will be revised to an optimum frequency based on further inspections and the replacement design.
- 3. MOV-3504A and MOV-3505A will be replaced to minimize the amount of steam leakage into the system during standby operation.
- 4. The maintenance procedure for V-9519E, CMM-37-19-9519E, will be revised to include the addition of verification of stem inspection results, specifically looking for pitting or any other surface degradation. The procedure will direct any condition be entered into the corrective action program if pitting is observed.
- 5. A series of High Performance Team-Building Workshops will be developed and implemented to focus on the use of formality and rigor in making decisions that affect equipment that is relied on for the safe operation of the plant.

V. Date When Full Compliance Will Be Achieved

All the before mentioned correction actions are planned for completion by June 2011.