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September 25, 2005

Memorandum To: ALLEGATION FILE RIV-2005-A-0064

From: Claude E. Johnson, Chief
Project Branch A
Division Reactor Projects

SUBJECT: CLOSURE OF ASSIGNED CONCERNS FOR ALLEGATION RIV-2005-A-0064

This memorandum provides the background closure information for Allegation RIV-2005-A-0064. By Problem Event Report 205-0434, dated July 28, 2005 and Condition Report 2-05-05517 dated September 2, 2005 Energy Northwest responded to the two issues identified by the alleger. In reviewing Energy Northwest's response, the NRC considered whether: (1) the appropriate root causes and extent of condition were considered; and (2) the allegers concerns were substantiated.

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Inspector's Followup to Allegation RIV-2005-A-0064

Background: An anonymous alleger is concerned that Post Maintenance Testing (PMT) was not performed following maintenance activities on transformer E-TR-S (Startup Transformer). Task 09 of W/O (Work Order) 01100866 was ignored by outage management. The transformer was powered up and loaded without a proper PMT. Outage management placed the startup transformer at risk and showed a complete disregard for equipment and personnel safety.

As part of planned maintenance while the plant was in mode 4, the licensee replaced all of the current transformer wiring for the startup transformer. On May 26, 2005 during post maintenance testing, technicians lifted each wire to the current transformer to perform continuity checks. After the continuity checks were complete, the wires were sequentially re-landed and torqued to their respective terminals. One wire that was removed from the X1 terminal on the current transformer was replaced accidently on a different terminal counter-clockwise and adjacent to where it was removed. This terminal had no marking identifying its location.

On May 27, 2005 the startup transformer was energized following planned maintenance and declared operable. On June 26, 2005, an oil leak developed on the startup transformer after further inspection by the licensee a burnt lead was discovered on a current transformer of the startup transformer. It was later determined that a current transformer on the startup transformer was not re-wired per the system drawing during maintenance on May 26, 2005.

Concern 1: The startup transformer was powered up and loaded without a proper PMT.

Conclusion: The inspectors substantiated the alleger's concern that the startup transformer was powered up and loaded without a proper PMT.

The proposed PMT (Work Order 01100866, task #9) directed obtaining multiple readings on the high winding current transformer at both the differential and the overcurrent relays. A warning within the proposed PMT stated, "This test is a **HIGH RISK** evolution. No work shall be performed without a complete understanding of the work. This testing has a HIGH RISK of equipment damage if personnel errors are involved." The system engineer, operations and outage management reviewed this task and determined that there was little value added in performing the task and there would be a more practical opportunity for such testing with the plant at a higher, stable power level with selected buses transferred to the startup transformer. The proposed PMT task (Work Order 01100866, task #9) also directed that readings from the startup transformer low winding ammeters be recorded as load was added to the transformer. It was the low winding current transformer that had been mis-wired, but this relatively low risk task (number 9) of the PMT was not performed. After subsequent interviews with the licensee system engineer and system engineer supervisor, the NRC inspectors determined that the low winding measurements could have been performed with minimal risk to personnel and equipment and that this low risk part of the task could have been separated from the higher risk section to enhance work control and ensure critical data was recorded. The collected data could have identified the mis-landed current transformer lead.

Concern 2: Outage management placed the startup transformer at risk and showed a complete disregard for equipment and personnel safety.

Conclusion: The inspectors partially substantiated concern 2. The inspectors concluded that by not performing a PMT on the startup transformer that outage management did place the startup transformer at some level of risk to failure. However, the inspectors could not substantiate that the licensee completely disregarded equipment and personnel safety, because the licensee's decision to not perform task number 9 of work order 01100866 was based partly on concerns regarding the potential for equipment damage.

Outage management, system engineering and operations reviewed the proposed PMT (Work Order 01100866, task #9), which directed obtaining multiple readings on the high winding current transformers at both the differential and the overcurrent relays. The licensee determined that the PMT was a high risk evolution considering that a CAUTION statement in work order 01100866, task #9 stated that, "lockout relays could trip and equipment damage could result if care was not taken when inserting or removing relay plugs." The licensee also considered plant transients that could result from a potential loss such of the startup transformer. The licensee determined that there would be a more practical opportunity for such testing with the plant at higher, stable power level, with selected buses transferred to the startup transformer, and the exact conditions for such risky evolutions should be determined and presented at a challenge meeting, in accordance with plant procedures.

The resident inspectors will document this issue in report number 05000397/2005004 as a green self-revealing finding associated with electricians' failure to follow a maintenance procedure when the re-installation of the secondary winding for the startup transformer was not performed correctly.