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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
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Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
EXTERIOR STEAM DRYER WELD NOT
INSPECTED ON SUSQUEHANNA SES UNIT 1
PLA-6776 **Docket No. 50-387**

Reference: Letter (PLA-6633), T. S. Rausch (PPL) to Document Control Desk (USNRC), "Unit 1 Operating License No. NPF-14 License Conditions 2.C.(36)(a)3, 2.C.(36)(b)7 and 2.C.(36)(f)," dated July 15, 2010.

The purpose of this letter is to inform the NRC staff that the exterior of steam dryer weld VS-C-1 was not inspected as stated in the Susquehanna Steam Electric Station (SSES) Unit 1 16th Refueling Outage (RIO) Final IVVI Report.

As part of the Boiling Water Reactor Vessel Internals Program (BWRVIP) Self Assessment conducted in 2010 and in accordance with the requirements in NEIM-00-1180, a review of the Unit 1 16th RIO General Electric Hitachi (GEH) Final IVVI Report discovered that the exterior of steam dryer weld VS-C-1 was not inspected. However, the interior of the VS-C-1 weld received an acceptable VT-1 exam with no defects identified.

This incident is not considered a missed examination, in that the Steam Dryer inspections required by GEH per their document, "Susquehanna Steam Electric Station Units 1 & 2 Recommendations for Future Inspection Replacement Steam Dryer," requires only a single sided exam to detect fatigue cracking from flow induced vibration. The SSES driven inspection scope required an interior and exterior VT-1 inspection.

An investigation into the incident revealed the following:

General Electric Hitachi (GEH) created an inspection document for the new steam dryers, which listed the required welds to be inspected. It also designated the inspection technique but it gave no other specific inspection instructions. The original steam dryer weld designations were used as much as possible for the new steam dryer and new components were generated as needed. The weld in question, Dryer Weld VS-C-1 was an original weld component in the IDDEAL database and therefore no new items would normally have been created. Similar welds had been found during the ISI Pre-Service

inspections that required repair of the weld interior. Because of this, an inspection of the weld interior was determined to be required. Generally, access to two sides of a weld is not physically available and one-sided exams are an acceptable method of inspection. The majority of the steam dryer welds are inspected from one side only. Completion of either the weld interior or exterior would be acceptable for taking program credit. To aid the inspection vendor GEH, a separate component was created for this inspection, "Dryer Weld VS-C-1 Interior." Two separate inspections could have been created in the IDDEAL database for Dryer Weld VS-C-1, an interior and an exterior exam but multiple exams under one component can be confusing. Breaking the weld into two distinct components should have avoided this confusion. However, the inspector that was tasked with the item performed a weld interior exam and not the exterior. The GEH Level III reviewer recognized this error and documented in the Level III comment field a request for a relook for the weld exterior. The PPL video reviewer agreed with this need for a relook, but did not request a relook since it was being handled in the GEH normal workflow. Later discussion with GEH revealed that the GEH eIVVI system contained a software flaw where the request for a relook request could be overwritten when comments are entered into the customer comment field. It is likely the GEH Level III entered the relook into the system but the software flaw later overwrote the relook request. At one other similar dryer weld, the inspector performed the interior and not the required exterior, however, a successful relook ordered by the GEH Level III was completed. During the Unit 1 16th RIO, GEH Level III's ordered over 100 relooks for various reasons, inspection quality, wrong component, or for engineering analysis. This is a much higher number than earlier outages.

To correct this situation in the future, additional ISI staffing will allow for daily reviews of GEH datasheets and tracking of relooks prior to the dismantling of their eIVVI system. A similar condition should be noted in time for the relook to be performed.

The results of the steam dryer exam transmitted to the NRC as an Extended Power Uprate (EPU) commitment listed both the interior and exterior weld as being completed. The commitment was for ISI to perform exams as directed by GEH and BWRVIP-139. Inspection of Dryer Weld VS-C-1 interior satisfies this commitment. Dryer Weld VS-C-1 is not identified in the curved dryer hood portion of BWRVIP-139 as a required weld.

This letter contains no new commitments.

Should you have any questions, please contact C. T. Coddington at (610) 774-4019.

Sincerely,

F. A. Kearney

Copy: NRC Region I
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