

**QUESTION:** In the LER and Root Cause Report we discuss inadequate PMTs being done on the individual feed line AMAG signals.

- (1) What PMT was done for the AMAG Common Header?
- (2) What assurance do we have that these common header values are accurate?

**ANSWER:**

- 1. Byron Unit 2: EC 344500, approved 9/5/03; Byron Unit 1: EC 344518, approved on 9/27/03. Per ECs, the following testing was required:

Installer: Verify the cables are not pinched or damaged during routing.

Installer – Other: Vendor to connect the data acquisition equipment and verify proper signal at computer. Although not specifically discussed, these vendor verifications included a check for noise. Byron Units 1 and 2 Common Headers were checked for noise using DIAGNOSE software by vendor on August 30 and 23, 2003 respectively and formally documented to Exelon by Westinghouse letter CAE-03-170/CCE-03-121, dated 12/8/2003.

Note that this testing is only associated with the installation of the AMAG system on the common header. The AMAG installation is a non-intrusive device that does not, by itself, impact the plant.

In order to actually use the AMAG common header data to calculate Correction Factors for use in the plant calorimetric calculation, a new procedure, BVP 800-47 must be written and approved. This procedure is not yet approved for use. Calculation NED-I-EIC-0233, Daily Power Calorimetric Accuracy Calculation, Rev. 1a, was completed in support of the use of the AMAG common header sensors under the BVP. In accordance with the requirements of CAPR1 and CAPR2 of the Root Cause Report, these procedures will include a check for noise prior to use of the AMAG common header correction factors.

The RCR assumed an overpower based on the individual AMAG sensor correction factors relative to the common header AMAG sensor correction factors. However, the LER conservatively assumed an overpower based on the individual AMAG sensor corrections factors relative to the FW flow venturis. At this time, the common header AMAG sensor has not been used to provide correction factors for use in the plant calorimetric.

- 2. CROSSFLOW and other UFMs are used to monitor flow and do not routinely see use of tracer testing to validate the numbers generated. A requirement for a third methodology for confirmation of accuracy is not borne out by research of the industry or current standards. Topical reports were issued and NRC

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reviewed/approved on both commonly used UFMs without requiring such a step. The accuracy of the CROSSFLOW installation was provided by the vendor in the installation calculations, on a unit/line basis. The installations have been checked for noise, and none was found.