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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Perry Nuclear Power Plant
Docket No. 50-440
Request for Additional Information
Bulletin 88-05 Product Forms Other Than
Fittings and Flanges (TAC No. 68808)

Gentlemen:

Your letter of June 4, 1990 requested additional information on the disposition of Bulletin 88-05 product forms other than pipe fittings and flanges received at PNPP. The requested response date was 90 days from letter receipt. By letter PY-CEI/NRR-1210L, dated 8/17/90 we proposed a reporting date of December 7, 1990 for an updated status and completion schedule on the following actions requested in your June 4, 1990 letter:

- a. The quantity and type of all PSI, WJM and CLM product forms other than fittings and flanges supplied to the Perry Nuclear Power Plant, Unit 1 site, including an itemization of those items installed in safety-related applications.

Our records indicate West Jersey Manufacturing (WJM) was the only supplier of suspect material to PNPP. The results of our completed records review identified a total of 996 items: 374 installed in Unit 1, 336 installed in Unit 2, 226 not used, and 60 installed and subsequently removed from Units 1/2. These items were supplied on 36 purchase orders, and consisted of 11 product forms (see our 8/17/90 letter and Attachment 1 of this current letter for identification of the product forms). Further itemization by purchase order, item number, system, installation drawing, material specification and heat is provided in our files.

- b. The plan and schedule for performing field measurements or other tests on those items installed in safety-related applications to verify the physical and chemical properties of the material.

Engineering analyses have shown that field measurements were necessary on only two of the product forms. Field measurements have been completed on one of the two product forms which required testing. The schedule for performing field measurements on the remaining product form, and the bases for test evaluations are discussed under (c) below.

- c. The plan and schedule for performing JCOs for those items installed in safety-related applications where material properties are found to be less than those in the appropriate material specification.

Operating Units
Cleveland Electric Illuminating
Toledo Edison

9012180022 901211
PDR ADOCK 05000440
Q PDR

171030

JEH

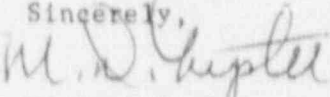
The Engineering evaluations performed to date have shown that none of the evaluated product forms are deficient for their design, therefore JCO performance is not applicable. Evaluations on the carbon steel product forms are based on the assumption of 45 ksi minimum ultimate material strength, consistent with the conclusions of NUREG 1402 and the NUMARC report submitted in October 1988 (NUMARC 88-01) regarding plate material for blind flange applications. This minimum strength assumption was used to demonstrate required function consistent with the design basis for the specific item/component. Evaluations on stainless steel items were not considered necessary, consistent with the conclusions of Appendix A to NUREG 1402 (NRC Bulletin 88-05 Supplement 3 Attachment 1).

Attachment 1 presents an item-by-item summary of each product forms analysis.

- d. The plan for future use of PSE, WJM or CLM material other than fittings and flanges which is in storage.

We have not identified any of the above product forms in Perry's warehouse stock for Unit 1. As an additional measure, procedures have been revised to prevent any future release of suspect material for safety-related application without prior engineering review and approval.

If you have any questions, please feel free to call.

Sincerely,

Michael D. Lyster

MDL:WJE:njc

Attachment

cc: USNRC Project Manager
USNRC Resident Office
USNRC Region II

<u>Product Form</u> [*]	<u>Number Installed</u>	
	<u>Unit 1</u>	<u>Unit 2</u>
1. Restricting orifices	60	46
2. Spectacle flanges	28	34
3. Ring spacers	8	4
4. Pipe guide lugs	57	-
5. Penetration plates	1	65
6. Penetration plate rings	28	42
7. Seal plates	14	2
8. Shoulder screws	168	132
9. Sample probes	4	4
10. Plate	6	7
Total	374	336

* The eleventh product form was "Radiograph Plugs." None of these radiograph plugs were installed in Unit 1/2.

Summary of Product Form Reviews:

The table above identifies the product forms and installed quantities identified by the records review. Below is provided a brief summary of the engineering review of each product form. As noted in this letter, evaluations of carbon steel items assumed a minimum ultimate material strength of 45 ksi, and evaluations of stainless steel items were not necessary.

Item 1 Restricting Orifices - This product form was constructed of stainless steel, therefore further analysis was determined to be unnecessary.

Item 2 & 3 Spectacle Flanges and Ring Spacers - These carbon steel items were evaluated analytically, and adequacy for the design application was demonstrated.

Item 4 Pipe Guide Lugs - A review of the application showed that these lugs are within a penetration sleeve and carry compressive load only. Also, this product form was constructed of stainless steel. No further analysis was judged to be necessary.

Item 5, 6, 7 Penetration Plates, Plate Rings, and Seal Plates - These product forms involved materials supplied for penetrations. Unit 1 items were individually reviewed and evaluations were performed for carbon steel items. The evaluations showed adequacy for the design application, with the exception of one item, [a drywell penetration for the liquid radwaste sump (PRB-2030)]. This penetration plate was in-place hardness tested with an Equotip device. The test results were correlated by ASME Code SA-370 (NUREG-1402, Section 2.8) to a tensile strength equivalent to the original procurement specification. Based on the analyses and test results, items 5, 6 & 7 are adequate for their design application in Unit 1. Evaluations on the Unit 2 penetrations were not performed.

Item 8 Shoulder Screws - This product form was identified as bolting on drywell and containment purge valve flanges (M14F040, F065, F070 and F090). Analyses assuming reduced material tensile strength, showed a potential for exceeding bolt yield strength under maximum installation torque for the "worst case" condition of a lubricated bolt. A test plan for the bolts has been developed and removal of a random sample of bolts is in process for further testing. Based on test results, additional analyses may be necessary to determine margins to demonstrate strength or the bolts will be replaced. This work will be completed by 2/15/91. In a manner analogous to the review and disposition of earlier Bulletin 88-05 material applications, affected systems will be considered operable with respect to material applications unless and until stress analysis demonstrates material strength is not adequate for design-basis loading conditions.

Item 9 Sample Probes - This product form was constructed of stainless steel, therefore, further analysis was determined to be unnecessary.

Item 10 Plate - This product form has been used as "shim" material in the construction of pipe supports. The loading for such applications is very dominantly compressive. This material is therefore judged to be acceptable without further evaluation.