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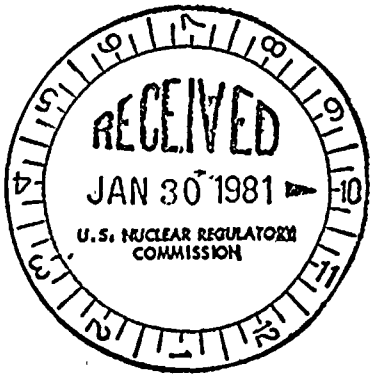

Mr. Boyce H. Grier, Director
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION
IE BULLETIN 79-02 REVISION 2
ER 100450 FILE 841-4
PLA-598

DOCKET NOS. 50-387
AND 50-388

Dear Mr. Grier:

The following information completes our response to IE Bulletin 79-02 through Revision 2, "Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts." This information supplements our previous responses in PLA-378 (July 6, 1979), PLA-435 (January 7, 1980), and PLA-461 (March 25, 1980).

IE Bulletin actions to be taken:

1. See PLA-378

2. Attachment 2 of PLA-378 presents Bechtel Power Corporation's generic response to this bulletin. Item 2 of the attachment states that the factors of safety required by the bulletin are not necessarily met for certain circumstances. This statement does not apply to Susquehanna SES. Susquehanna's allowable loads are listed in Technical Specification 8856-C-72. These provide safety factors meeting or exceeding the minimum requirements of the bulletin. Since these allowable loads were used in the re-evaluation of the piping supports, Susquehanna meets the factors of safety listed in the bulletin.

3. See PLA-378.

4. See PLA-378. Revision 1 of the bulletin addresses the backing off of leveling nuts such that they are not in contact with the bare plate before applying tension or torque testing. Since 1976, training sessions have addressed the problems associated with testing of expansion anchors with leveling nuts. These training sessions were started at the beginning

of expansion anchor usage at Susquehanna. The standard field practice where leveling nuts were used has been to back the leveling nut off prior to testing the anchor. We believe that this standard field practice, reinforced through the training sessions, provides adequate assurance that leveling nuts were backed off. More recently (July, 1979) all crafts have been directed to stop using leveling nuts on expansion anchors.

5. See PLA-435 and PLA-461.

6. See PLA-435 and PLA-461. Susquehanna has only 14 supports to evaluate. The 14 pipe supports using structural shapes instead of base plates are listed in Attachment 1. The first 10 supports were found to meet the bulletin requirements based on detailed elastic analyses. The expansion anchors associated with these 10 supports were found to have factors of safety meeting or exceeding those specified in Revision 2 of the bulletin when the flexibility of the structural shape was taken into account. The last 4 supports were found to be unacceptable and will be modified. This will entail either addition of expansion bolts to stiffen the shape or elimination of the structural shape. The required rework will be completed prior to fuel load.

7. See PLA-378. All required actions have been completed.

8/9. Several possible problems with concrete expansion anchors have been discovered since our last response to IE Bulletin 79-02 (PLA-461). One of these problems, using pipe shims around anchor bolts to level and grout floor-mounted baseplates, was reported as required under 10CFR50.55(e) and will have an effect on the factor of safety of the subject piping supports (PLA-586 dated December 9, 1980). The anchor bolt's shear resistance is reduced due to the bolt being unsupported within the pipe shim. Therefore, every Seismic Category I and Safety Impact pipe support floor-mounted baseplate will be re-evaluated for shear resistance. Additionally, as part of a general inspection and evaluation program for all Seismic Category I and Safety Impact expansion anchors, every accessible concrete expansion anchor will be inspected for tension, embedment, center to center spacing, edge distance, and pipe shimming, Evaluation of inaccessible expansion anchors will be performed on the basis of experience gained from the accessible anchor inspection. All inspection activities, evaluations, and any required corrective actions will be completed prior to fuel load and will ensure that all expansion anchors used for Seismic Category I

and Safety Impact piping supports meet the minimum safety factor requirements of the bulletin.

Very truly yours,

N. W. Curtis

Attachment

RMH:mks

cc: Director
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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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ATTACHMENT 1

PIPE SUPPORTS USING STRUCTURAL SHAPES INSTEAD OF BASE PLATES

	HGR. NO.	REV.	DATE	SIZE (INCHES)	SKM	SYSTEM	BLDG.	AREA	RAD. ZONE	EXP. BOLT SIZE* DIAMETER (INCHES)	REMARKS
1.	HBB-110-H5	5	8-27-79	24	839L	RHR	Reactor	29	IV	3/4	Bolts & Structural Shapes O.K. Per Detailed Analysis
2.	HBB-210-H5	0	8-19-77	24	2899B	RHR	Reactor	34	IV	3/4	
3.	HCC-101-H8	0	1-20-78	6	1020C	Fuel Pool Cooling & Clean-up	Reactor	29	II	5/8	
4.	HCC-103-H21	0	4-20-78	8	1018D	Fuel Pool Cooling & Clean-up	Reactor	29	II	5/8	
5.	HRC-134-H2	3	2-15-80	4	770E	ESW	Control	12	II	5/8	
6.	HRC-134-H3	5	2-15-80	4	770E	ESW	Control	12	II	5/8	
7.	GBC-2-H5	1	2-22-78	3	1051B	Diesel Aux.	Diesel Gen.	44	I	5/8	
8.	GBC-4-H5	1	2-22-78	3	1053B	Diesel Aux.	Diesel Gen.	43	I	5/8	
9.	GBC-6-H5	1	1-28-78	3	1052B	Diesel Aux.	Diesel Gen.	44	I	5/8	
10.	GBC-8-H5	1	2-22-78	3	1054B	Diesel Aux.	Diesel Gen.	43	I	5/8	
11.	HBC-5-H8	1	3-20-78	36	994A	Diesel Aux.	Diesel Gen.	44	N/A	3/4	**Rework
12.	HBC-8-H6	1	3-20-78	36	994A	Diesel Aux.	Diesel Gen.	43	N/A	3/4	

	HGR. NO.	REV.	DATE	SIZES (INCHES)	SKM	SYSTEM	BLDG.	AREA	RAD. ZONE	EXP. BOLT SIZE* DIAMETER (INCHES)	REMARKS
13.	HBC-11-H7	1	3-20-78	36	994A	Diesel Aux.	Diesel Gen.	44	N/A	3/4	
14.	HBC-13-H8	2	3-20-78	36	994A	Diesel Aux.	Diesel Gen.	43	N/A	1	

* All bolts are Hilti-Kwik Stud. Typ.

** Bolts & Structural Shapes may not be used in new designs to be issued.