



Pennsylvania Power & Light Company

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Vice President-Nuclear Operations
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OCT 31 1986

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Project Director
BWR Project Directorate No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
APPENDIX R - ADDITIONAL INFORMATION
ON DEVIATION REQUEST NO. 6
NON-FIREPROOF STRUCTURAL STEEL
PLA-2749 FILE P5-1, A17-15

Docket No. 50-387
and 50-388

Dear Ms. Adensam:

Enclosed is our revision to Deviation Request Number 6 which addresses Non-Fireproofing of Structural Steel including issues and concerns raised by your staff during their meeting with us on July 30, 1986.

In order to adequately address the issues and concerns raised by your staff, an extensive reanalysis of the Unit 1 and Unit 2 Reactor Buildings was performed. This effort required a detailed structural analysis in parallel with a fire protection evaluation in order to examine all areas of each building on a floor-by-floor, area-by-area, and case-by-case basis. Because of the shear magnitude of this effort, a substantial amount of time was required to complete it.

Your staff expressed concern with our use of average combustible loadings in our previous analysis. Our reanalysis is based on fire test data (referenced in the attached summary report) and existing plant configurations.

If you have any questions regarding this submittal, please contact us.

Very truly yours,

H. W. Keiser
Vice President-Nuclear Operations

cc: M. C. Thadani - NRC
L. R. Plisco - NRC

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Drawings
To: Reg Files*

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APPENDIX R DEVIATION REQUESTNON FIREPROOFED STRUCTURAL STEEL

Deviation Request No. 6
Revised October 1986
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DEVIATION REQUEST:

Exposed structural steel supporting the fire area barriers identified below are acceptable and do not require fireproofing.

FIRE ZONES AFFECTED:

Table 1.0 provides a list of the affected fire zones. This table also refers to a series of drawings associated with each fire rated floor slab to show the extent of the required fire protection.

REASON FOR DEVIATION REQUEST:

Within the Unit 1 and 2 Reactor Buildings and Control Structure, certain floor/ceiling assemblies are to be upgraded to a 3 hour fire rating, to separate redundant safe shutdown equipment. The structural steel supporting these floors is not protected.

JUSTIFICATION:UNIT #1 AND #2 REACTOR BUILDINGS:

Structural steel associated with each of the Unit #1 and #2 Reactor Building fire barriers required to be upgraded was examined and the evaluation criteria applied to demonstrate that fire proofing of this structural steel is not required was developed in the "Summary Report for Structural Steel Evaluation" documented as Engineering Study SEA-CE-003. To clearly demonstrate the applicability of this criteria to the fire area barriers in question, a drawing of each area, corresponding to the Fire Zones listed in Table 1.0, is attached to this deviation request along with an area unique justification for each drawing. These drawings show the barrier area in question, the structural steel members supporting the barrier and the primary combustibles relevant to each area. Each drawing's corresponding unique justification references the section of the Summary Report for Structural Steel Evaluation that provides the basis for that justification.

CONTROL STRUCTURE:

Automatic detection and protection is provided below the exposed structural steel. The majority of the combustibles in the area below the exposed structural steel are cables. The majority of the cables are located either below the raised (computer type) floor in the Control Room or in 2 hour fire rated cable chases on the north and south walls of the control structure where only one structural member is effected. There is approximately 20 feet between the raised computer floor and the exposed structural steel supporting elevation 754'-0. Finally, the Control Room comprises the majority of the area beneath this steel and it is continually staffed.

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TABLE 1.0

<u>FIRE ZONE BENEATH RATED FLOOR SLAB</u>	<u>TOP OF SLAB ELEVATION</u>	<u>NFPA 13 SPRINKLER PROTECTION PROVIDED</u>	<u>DRAWING REFERENCE</u>
<u>Unit 1 Reactor Building</u>			
1-1F	683'-0"	No	C-206006 Sht. 1
1-1E	683'-0"	No	C-206006 Sht. 2
1-3A	719'-1"	Partial	C-206007 Shts. 1&2
1-3B-W	719'-1"	Yes	C-206021 Sht. 1
1-3B-W	719'-1"	Yes	C-206021 Sht. 2
1-4A-W	749'-1"	Yes	C-206008 Shts. 1&3
1-4A-W 1-4A-N	749'-1"	Yes	C-206008 Sht. 2
1-4A-W 1-4A-S	749'-1"	Yes	C-206008 Sht. 4
1-4A-W 1-4A-N	749'-1"	Yes	C-206008 Sht. 5
1-4G	761'-10"	No	C-206009 Shts. 1&2
1-5A-S	779'-1	Yes	C-206010 Shts. 1&2
<u>Unit 2 Reactor Building</u>			
2-1F	683'-0"	No	C-206011 Sht. 1
2-1E	683'-0"	No	C-206011 Sht. 2
2-3B-N	719'-1"	Yes	C-206012 Shts. 1&2
2-3B-W	719'-1"	Yes	C-206022 Sht. 1
2-3B-W	719'-1"	Yes	C-206022 Sht. 2
2-4A-S 2-4A-W	749'-1"	Yes	C-206013 Sht. 1
2-4A-W	749'-1"	Yes	C-206013 Shts. 2&3
2-4A-W 2-4A-S	749'-1"	Yes	C-206013 Sht. 4
2-4A-W 2-4A-N	749'-1"	Yes	C-206013 Sht. 5
2-4G	761'-10"	No	C-206014 Shts. 1&2
2-5C 2-5A-S 2-5B	779'-1"	No	C-206015 Shts. 1, 2&3
2-6A	799'-1"	No	C-206016 Sht. 1
<u>Control Structure</u>			
0-26A, E-N, P, R	754'-0"	Partial	N/A