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SUBJECT: Responds to NRC request for addl info re 820709 Amend 49 to OL application.Each FSAR section change & justification listed.

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JUN 0 1 1984

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
ADDITIONAL INFORMATION ON AMENDMENT NO. 49
ER 100450 FILE 841-1 Docket Nos. 50-387
PLA-2217 50-388

Dear Mr. Schwencer:

This letter is provided at the request of your staff for the purpose of clarifying our PLA-1183, dated July 9, 1982, which transmitted Amendment 49 to the operating license application. Below find a listing of each FSAR section change and associated justification.

Table 1.8-4	Administrative change adding an FSAR figure reference for P&ID M-123.
Section 2.3.3.3 and Table 2.3-73	Administrative changes to incorporate metric units of measurement for tower heights and sensor locations. Deleted the strip chart recorder and added the description of the telemetry transmitting system for data transmission to the control room. Table 2.3-73 was revised to include the backup meteorological tower and to document new instrument locations on the main (300 ft.) meteorological tower in accordance with proposed Revision 1 to Regulatory Guide 1.23.
Table 3.2-1	Updates code classifications. Changes meet or exceed industry standards.
Figure 3.2-2	Describes updated code classification (ref. Table 3.2-1) for instrument lines. This figure was also revised in Revision No. 32.
Sections 3.6 and 3.6A	Updated text to reflect the results of new loads calculations resulting in new postulated pipe break and restraint locations, updating of high energy components list and isometrics.

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Administrative changes to correct typographical errors and added clarifications to existing text.

Updated analysis summaries for pipe breaks outside of containment.

Section 3.7b.4.1.1 Added a clarification that the Unit 2 containment foundation triaxial time listing accelerograph would be placed in service for Unit 2 only.

Sections 3.9 and 3.10 Revised text to include the description of hydrodynamic loads. This material was previously submitted to the NRC in PLA-1140 date June 18, 1982.

Administrative changes to correct typographical errors and references, and to clarify text.

Section 3.11 and Table 3.11-6 Revised to reflect NRC regulatory requirements as stated in NUREG 0588, Rev. 1. Changes to Table 3.11-6 have been reviewed as part of the Susquehanna SES Environmental Qualification Program for Class 1E equipment.

Section 3.12.3.4.2.1(g) Revised text to include new paragraph (g) and redesignated former paragraph (g) as paragraph (h).

New paragraph (g) provides a description of separation used for lighting fixture cords.

Section 3.13 Administrative changes to:

(1) Clarify licensing basis in the introduction.
(2) Correct typographical errors.
(3) Add references.
(4) Clarify description of electrical penetration in the medium voltage circuits for Regulatory Guide 1.63.
(5) Clarify position on Regulatory Guide 1.131 with respect to internal panel wires.

Section 3.13 (R.G. 1.104) The maximum trolley speed for the reactor building crane has been changed to 30 fpm, which is the recommended maximum of the regulatory guide. The previous maximum speed of 10 fpm caused the trolley to move so slowly that minor discontinuities in the rails caused the drive motor to stall and an overcurrent situation resulted.

The text was also revised to change our commitment to comply with Position C.4.d of Regulatory Guide 1.104 regarding the frequency of cold proof testing (once every 40 months) of safety related overhead cranes. NUREG 0554, Section 2.4 suggests a one-time proof load and subsequent

	NDE to be repeated every four years or less. Regulatory Guide 1.104 was superceded by NUREG 0554 in 1979.
Section 6.1.1.1	Administrative change correcting a typographical error.
Section 6.1.2	Revised text to incorporate the description of the degree of compliance with Regulatory Guide 1.54 and to provide estimates of the amounts of unqualified coating material. Text change provides a justification for the use of unqualified material. The use of unqualified coating material was previously discussed with the NRC staff.
Table 6.1-1a	Administrative changes adding missing data, correcting typographical errors, and correcting of material designations.
Table 6.1-1b	Administrative changes correcting typographical errors and updating material listings.
Table 6.1-2	Revised table to reflect coatings utilized. Use of unqualified coatings was previously discussed with the NRC. Also, changes reflect compliance with Regulatory Guide 1.54 (see changes to Section 6.1.2).
Section 6.2.4.3.3.7	Revised text to eliminate redundant wording.
Section 6.2.4.3.3.9	Adds section to describe the containment isolation provisions for the containment instrument gas supply line. This is an exemption to the General Design Criteria. An exemption has been requested under separate letter.
Table 6.2-5	Revised the peak drywell pressure used for a recirculation line break. Revised figure (44.2) was used during testing. Previous figure given is no longer applicable.
Table 6.2-12	Changes to the primary containment isolation provisions to change isolation signals, add isolation valves, change closure times and correct typographical errors to bring the FSAR to the plant-as-built condition.
Table 6.2-19	Revised the peak test pressure due to the capping of 5 downcomers.
Table 6.2-22	Administrative change to revise the format of penetrations X-9A and X-9B to clearly identify which valves are associated with which penetration.
Figure 6.2-44m	Additional description of the containment penetration detail.

[illegible]

Figure 6.4-1E	Administrative change to figure depicting previously approved text material. This figure was inadvertently missed at the time text material was incorporated into the text.
Sections 6.5.1.1 and 6.5.1.2	Administrative changes to correct typographical error and to clarify text. The temperature of incoming air to the SGTS train was revised from 180°F to 125°F.
Table 6.5-1	Administrative change to change "CREOASS" to "CSEOASS" due to change in the name of the system.
Table 6.5-2	Administrative change to change "CREOASS" to "CSEOASS" due to change in the name of the system.
Appendix 6B, Figure 6B-1 and Figure 6B-2	Previous FSAR text reflected the theoretical basis of the computer code COPRA, which was the predecessor for the computer code COPDA. COPDA was the computer code used to evaluate compartmental differential pressures for Susquehanna SES. The text was rewritten to reflect the theoretical basis for COPDA.
Figure 7.1-1, Sheet 4	Administrative change revising the Figure number to correct erroneously labeled figure. New figure number is 7.2-1, sheet 4.
Figures 7.2-5, 7.2-6 and 7.2-9	These figures were revised to incorporate changes made to the elementary diagrams. The elementary diagram changes are reflected in the FSAR figures after the elementary diagrams have been updated during our document control process.
Figure 7.3-9	Administrative change to correct the core spray pump mitigation logic figure to agree with previously reviewed FSAR text description.
Section 7.4.1.4.1	Administrative change to provide an updated description of the upgraded access control configuration for the remote shutdown panel area. Revised the listing of safe shutdown systems as described in PLA-1071 dated June 3, 1982. Revised the description of circuits bypassed when the remote shutdown panel is energized. This description incorporates SPOTMOS.

[illegible]

Table 7.4-3	Revised the remote shutdown panel instrumentation listing to reflect changes, valve numbering, and to conform with PLA-1071, dated June 3, 1982.
Table 7.5-8	This table has been revised to delete the Loss of Control Power for Solenoid Valves (Div. I and II) for containment isolation and the LOCA test for drywell ventilation bypassed component indications since these were not design requirements and were not installed.
Section 7.6.1b.1	Adds the safety/relief valve position indication system to the list of Containment Atmosphere Monitoring System - Instrumentation and Controls. The safety/relief valve position indication is required by TMI Item II.D.3.
Section 7.6.1b.1.2	Adds additional detail to the description of the SPOTMOS function on the RPS.
Section 7.6.1b.6	Adds the description of the Safety/Relief Valve Position Indication System which is in accordance with TMI Requirement II.D.3.
Section 7.7.1.6.3.2	Changes text to reflect logic changes which prevent re-opening of the TIP ball valve after removal of an isolation signal. This change was required by the NRC in IE Bulletin 80-06.
Figure 7.7-12	Revised the plant computer configuration diagram to reflect ERCS commitment. (Note: This change was superceded by our responses to Generic Letter 82-33).
Section 8.1.6.1.n(13) and Table 8.1-2	Administrative change revising the description of the suppression pool penetrations to show that the third penetration, previously described, will be added during the first refueling outage for Unit 1. Additionally, a description of the routing of non-Class 1E circuits in the existing two penetrations has been added. A commitment to reroute these circuits in the third penetration when it is added has been provided.
Section 8.1.6.1.n(17)	Describes the application of separation criteria to the SPDS installation. SPDS is per regulatory commitment.
Tables 8.3-1a, 8.3-3 and 8.3-5	Revised tables to clarify diesel loading to continuous and 2000 hour ratings as requested by the NRC staff.
Section 9.1.2.2	Revised text to indicate that the top of the active fuel bundle is 8.5 feet below the water surface when the hoist is at its normal up position for transport.

Section 9.1.4.2.7.1	Administrative change describing the grapple position for fuel transport activities and provides the required water shielding.
Section 9.1.4.2.10.2	Administrative change describing the grapple position for fuel transport activities.
Section 9.1.4.3.7	Revised the description of the hoist position to show that the top of the active fuel bundle is 8.5 feet below the water surface when the hoist is in its normal position for fuel transport. Previous description discussed the hoist in its full retracted position.
Section 9.1.5	Administrative changes to correct typographical errors.
Section 9.1.5.1	Revised maximum trolley speed for the reactor building crane from 10 fpm to 30 fpm, which is the maximum speed recommended in Regulatory Guide 1.104. The previous maximum speed of 10 fpm caused the trolley to move so slowly that minor discontinuities in the rail caused the drive motors to stall and an overcurrent situation resulted.
Section 9.1.5.3	Administrative changes to the text clarifying the discussion regarding the reactor building crane.
Section 9.2.12.1	This section was revised to describe the design change which has the control structure chilled water system supply chilled water to the Unit 1 reactor building emergency switchgear room air handling system cooling coils during a loss of coolant accident or a loss of offsite power. This section also was revised to add reference to Figure 9.2-5b. It was revised to state the fact that the chiller can be restarted within three minutes after power is restored.
Section 9.2.12.3	This section was revised to clarify that the temperature switches along with a low water flow switch will initiate the draining of water in the cooling coils of the reactor building chilled water system.
Section 9.2.12.4	This section was revised to clarify the design supply chilled water temperature for the radwaste building chilled water system.
Table 9.2-14	This table was revised to update the design data for the Control Structure Chilled Water System.

Table 9.2-16	This table was revised to update the design data for the Turbine Building Chilled Water System.
Table 9.2-17	This table was revised to update the motor rating for the centrifugal water chiller motor in the Reactor Building Chilled Water System.
Table 9.2-18	This table was revised to update the design data for the Radwaste Building Chilled Water System.
Figure 9.3-9a	Revised figure to reflect the as-built configuration for PASS, which was previously reviewed as a TMI commitment. Administrative change revising the figure enumeration from 18.1-11 to 9.3-9a.
Figure 9.3-10	Revised figure to reflect the text. Because of the drawing control process, the figure was changed after the FSAR text had been changed.
Table 9.4-2	This table was revised to update the design parameters for the Control Structure HVAC Systems.
Table 9.4-3	This table was revised to update the design parameters for the Reactor Building HVAC Systems.
Table 9.4-6	This table was revised to update the design parameters for the Radwaste Building HVAC Systems.
Table 9.4-7	This table was revised to update the design parameters for the Turbine Building HVAC Systems.
Section 9.5.1	Revised text to agree with the Susquehanna SES Fire Protection Review Report, Revision 2. Administrative changes to correct typographical errors and to add clarity.
Section 9.5.2	Revised the description of the plant communication systems to reflect the as-built configuration. The communication systems have no safety-related function, therefore, these changes do not represent an unreviewed safety question.
Sections 9.5.4 and 9.5.5	Administrative changes to correct typographical errors, add clarity, correct an error in the description of the vent pipe classification, and correct the setpoint for the starting of the jacket water standby pump.
Section 9.5.6	Revised text to delete the discussion of the basket strainers which were described as being located upstream of

	each starting air control valve in the main headers. The final design configuration does not include these strainers.
Sections 9.5.7 and 9.5.8	Administrative changes to correct typographical errors, references, tense, and to clarify wording.
Section 9.5.9	Revised the reference to GE Topical Report NEDO-10466 to reflect correct revision. The change closes an NRC inspection open item.
Table 9.5-1	This table was revised to agree with the Susquehanna SES Fire Protection Review Report.
Table 9.5-2	This table was revised to add National Fire Protection Association Standards references.
Figure 9.5-9a	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-9b	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-10a	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-10b	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-11a	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-11b	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-12a	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Figure 9.5-12b	This figure was added to agree with the Susquehanna SES Fire Protection Review Report.
Table 9B-1	This table has been revised to state the new trolley speed is 30 fpm as recommended by the NRC.
Figure 10.4-1	Revised figure to reflect the text. Because of the drawing control process, the figure is revised after the FSAR text is changed.
Figure 11.2-9	Revised figure to reflect the text. Because of the drawing control process, the figure is revised after the FSAR text is changed.

[illegible]

Section 11.5.2.1.9 Revised the description of the liquid radwaste effluent radiation monitoring system.

Section 12.1.1.2 Revised the division of responsibilities for administration of the ALARA program during operational phase.

Figures 12.3-8 thru 12.3-28 Changes in the radiation sources and shielding requirements and Figures are as follows:

A. The as-built review incorporated the latest revision of General Electric's radiation source document in which the N-16 concentrations were reduced from 100 uCi/g to 50 uCi/g. This reduction resulted in shield designs dominated by N-16 being more conservative (by as much as a factor of 2).

B. Piping and equipment layout changes affected some of the transit times used in activity calculations. A relatively small change in transit times for sources dominated by N-16 can have an impact on activity and shielding calculations.

C. Early Susquehanna activity calculations were based on conservative assumptions concerning equipment design and function in order to avoid any significant modifications to shielding late in the construction phase. In the as-built review, greater detail about the equipment was available. Changes involving accumulation rates, source volumes, and source modeling were made in some calculations in order to reduce the excess in conservatism and to reflect the as-built equipment design. As a result some concrete thicknesses have been reduced.

The revisions discussed above, which includes those in question, did not impact Susquehanna's compliance with NUREG-0737 (post-accident shielding study).

Figure 12.4-1 This figure was revised to update the turbine shine doses.

Section 12.5 This section was revised to reflect the new department structure, job duties, titles, and adds references to regulatory documents.

Figure 12.5-1 Administrative changes reflecting changes to staffing of the Health Physics Organizations.

Figures 12.5-2 thru 12.5-6 These figures were revised to reflect the general floor plans for certain areas of the Control Structure, Radwaste Building, and Reactor Buildings.

Figure 13.1-5	Administrative change reflecting new title designations.
Chapter 14	Administrative changes. Changes to Chapter 14.0 were previously approved by NRC and have been incorporated into the license.
Section 15.6.2.5	Administrative change correcting references to FSAR tables.
Table 17.2-1	Revised the commitment to Regulatory Guide 1.64 to eliminate conflict with ANSI standards as requested by NRC.
Section 18.1.1.3	Administrative change revising the NDI numbering system.
	Administrative change revising plant procedure title and number.
Section 18.1.3.1	Revised statement of requirements to reflect new NRC position.
Section 18.1.4.3	Administrative change revising plant procedure title.
Section 18.1.5.3	Administrative changes revising NDI enumeration and to clarify wording.
Section 18.1.7.3	Administrative change revising NDI enumeration.
Seciton 18.1.12.3	Administrative changes revising NDI enumeration and procedure title.
Section 18.1.30.3.3	Text was revised to describe changes in radiation detectors. The Victoreen detector formerly described was replaced because it could not be qualified. The General Electric instrument installed at Susquehanna SES is a qualified detector.
Section 18.1.24.3	Administrative change to add reference.
Section 18.1.71.3	Incorporation of changes to Subsection 6.4 which was previously discussed with the NRC.
Section 18.2.9.3	Administrative change revising plant administrative procedure enumeration.
Tables 18.1-10 and 18.1-11	These tables were revised to reflect the containment isolation actuation provisions.
Figure 18.1-11	Administrative change revising figure enumeration from 18.1-11 to 9.3-9a.

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Table 18.2-1	Administrative change to clarify foot note - changed location of note.
Questions 021.71, 021.73 and 021.76	Administrative changes to update question responses to reflect information previously submitted to the NRC in the Susquehanna SES DAR.
Questions 032.64 and 032.66	Administrative changes to question responses reflecting close-out of commitments to revise figures.
Questions 110.32, 110.36, 211.252, and 211.285	Administrative changes to question responses reflecting close-out of commitments.
Question 313.8	Administrative change to revise the response to the question to add reference to the Susquehanna SES Emergency Plan.
Question 371.30	Administrative change to update the question response to reflect that spray pond seepage testing has been completed.
Question 423.12	Administrative changes to reflect close-out of testing commitments, to delete reference to the startup test program, and to add reference to the plant technical specification surveillance requirements.

If you have any questions, please contact us.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

cc: R. L. Perch NRC