Robert J. Franssen
Plant General Manager

Susquehanna Nuclear, LLC
769 Salem Boulevard
Berwick, PA 18603
Tel. 570.542.3170
Robert.Franssen@TalenEnergy.com

TALEN ENERGY

OCT 1 0 2016

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUSQUEHANNA STEAM ELECTRIC STATION RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION RE: LICENSE AMENDMENT REQUEST EXTENDING COMPLETION TIMES IN SUPPORT OF 480V ESS LOAD CENTER TRANSFORMER REPLACEMENTS
PLA-7537 **Docket No. 50-388**

References:

1. *Letter PLA-7384, Susquehanna Steam Electric Station Proposed Amendment to Unit 2 Operating License No. NPF-22; Temporary Change to Allow Replacement of the Unit 1 480V ESS Load Center Transformers in Unit 2 Technical Specifications 3.8.7 and 3.7.1, dated January 28, 2016, (Accession ML16029A031).*

2. *NRC letter, Supplemental Information Needed for Acceptance of Requested Licensing Action Re: Proposed Request for Temporary Change of Unit 2 Technical Specifications 3.7.1 and 3.8.7, dated March 24, 2016, (Accession ML16060A230).*

3. *Letter PLA-7451, Susquehanna Steam Electric Station Supplemental Information for License Amendment Request Extending Completion Times in Support of 480V ESS Load Center Transformer Replacements, dated April 6, 2016, (Accession ML 16097A4896).*

4. *NRC letter, Request for Additional Information Regarding Proposed Request for Temporary Change of Unit 2 Technical Specifications 3.7.1 and 3.8.7, dated September 9, 2016, (Accession ML16251A065).*

Susquehanna Nuclear, LLC is providing information in response to questions pertaining to a License Amendment Request (LAR) affecting Susquehanna Steam Electric Station (SSES) Unit 2 Technical Specifications (TS). The proposal (Reference 1) affects TS 3.8.7 "Electrical Power Systems – Distribution Systems – Operating" and TS 3.7.1 "Plant Systems – RHRSW System and UHS." The proposed changes increase the Completion Time for Condition C of TS 3.8.7 and Condition A and B of TS 3.7.1 from 72 hours to 7 days in order to accommodate 480V ESS Load Center Transformer replacements on Unit 1.

Reference 4 requests additional information from Susquehanna Nuclear, LLC to support the NRC in reviewing the content provided in references 1 and 3, with an opportunity to provide the requested information by October 11, 2016. Attachment 1 provides responses to these requests.

Susquehanna Nuclear, LLC has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the NRC in Reference 1. The additional information provided by this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. Furthermore, the additional information does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment need to be prepared in connection with the proposed amendment.

There are no new regulatory commitments associated with this response.

If you have any questions or require additional information, please contact Mr. Jason Jennings, Manager of Nuclear Regulatory Affairs, at (570) 542-3155.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 10/10/16

Sincerely,

R. J. Franssen

Attachment 1: Response to Request for Additional Information
Enclosure 1: Affected Loads
Enclosure 2: Requested Copies of TROs

Copy: NRC Region I
Mr. J. E. Greives, NRC Sr. Resident Inspector
Ms. T. E. Hood, NRC Project Manager
Mr. M. Shields, PA DEP/BRP

Electronic Copy:

D. M. Ambrose
T. N. Creasy
M. Sivaraman
D. G. Kostelnik
N. E. Fairchild (NSRB)
R. J. Franssen
J. R. Jennings
T. J. Walters

NRA File	GENPL5
DCS	GENPL4

Attachment 1 to PLA-7537

Susquehanna Nuclear, LLC
Amendment Request for Temporary Change of Unit 2 Technical Specifications 3.7.1 and 3.8.7

Response to Request for Additional Information

RAI 1:

When extending the CT of a TS in the proposed system lineup (i.e., 1X210 or 1X220 de-energized), the licensee will make one train of RHRSW and Emergency Service Water (ESW) inoperable by disabling power to the RHRSW array valves and the bypass valve. If during the revised CT of 7 days, the station experiences a dual unit loss of offsite power (LOOP) with a single failure of the redundant RHRSW train, both trains of RHRSW and ESW would be inoperable. The scenario presented in the enclosure to the LAR dated January 26, 2016 (pages 6 and 7 of 30) does not address this concern.

Based on this concern, provide results of an analysis stating how the station will mitigate a dual unit LOOP when in the revised CT of 7 days. The results of the analysis should do one of the following:

a. Provide reasonable assurance, with specified compensatory actions in place at the start of the planned maintenance, that the probability of failure of the remaining train of RHRSW has been significantly reduced to justify the 7-day CT;

   Or

b. Assume the only remaining train of RHRSW has failed with the LOOP, and with defined compensatory actions in place at the start of the planned maintenance, demonstrate that RHRSW can be restored such that safe shutdown and cooldown to Mode 4 can be achieved for both units, including cooling of the spent fuel pool. In your analysis,

   i. assume the LOOP duration is the full 7 days;

   ii. identify the minimum time Unit 1 must be shut down in order for your analysis to be valid, since Unit 1 will already be in Mode 4;

   iii. describe the operator actions and the associated timeline needed to restore an RHRSW header to service in order to provide decay heat removal for both units.

Response:

This response will address question 1b. In discussing the response to this question, it is important to understand the configuration and availability of the RHRSW and ESW pumps in the division that the work is occurring. The work will cause a loss of power to the bypass and spray array valves causing them to fail in their current position (bypass valve open and spray array valve closed). As part of the work, the spray pond bypass valve will be confirmed in the open position. This establishes a flow path for both RHRSW and ESW to the spray pond. The RHRSW and ESW pumps on the division being worked will have power available and be able to start in the event of a design basis accident (e.g., LOOP) since they are powered from the Emergency Diesel Generators (EDGs). Since the RHRSW pumps in the affected division will have AC power and a flow path to the spray pond, they will remain functional to remove decay heat as required.

A potential issue that may impact RHRSW and ESW pump functionality is the loss of all ESSW Pumphouse ventilation fans in the affected division. Analyses have been performed to demonstrate that if the doors or dampers are configured in a specific manner, the natural circulation of air will keep the affected division temperature within pump operability limits. The analyses conservatively assumes design basis outside air temperatures. The required configuration will be established at the start of the work.

With the above actions in place at the start of the assumed event (LOOP), both RHRSW pumps in the affected division will be available for decay heat removal. The ESW loop in the affected division will be available to provide cooling water flow to the diesel generators and other ESW users. The operating unit RHR system will be aligned for suppression pool cooling or shutdown cooling when the RHR shutdown cooling pressure permissive is reached. The plant operator will align RHR in fuel pool cooling mode for the shutdown unit. This would cool both the fuel pool and the shutdown core assuming the core and fuel pools are connected though the reactor cavity. Operational experience has demonstrated that the non-safety related fuel pool cooling pumps can cool both the fuel pools and the core during outages. The RHR fuel pool cooling mode has a greater cooling capacity than the fuel pool cooling system so both the core and fuel pools will be cooled by the outage division RHR system.

The only long term concern of this approach is maintaining peak spray pond temperatures within the current analytical bounds. In the scenario analyzed to address this question, it is assumed only the affected division of RHRSW/ESW is available (i.e. the division with an open bypass valve). The spray pond temperature will increase in this valve alignment. The spray pond bypass and spray array valves are located in a valve vault near the spray pond. Plant personnel will be designated to manually position these valves in the event of an accident resulting in the loss of the operable loop of RHRSW/ESW cooling. This will provide cooling for the spray pond and maintain temperatures within design limits. This manual action will conservatively take less than 2 hour to perform. To determine the impact on spray pond temperature, this time will conservatively be doubled. If the initial spray pond temperature is maintained below 82°F, the peak pond temperature will be bounded by the current analysis assuming Unit 1 has been shut down for at least 24 hours.

To summarize, the following conditions will need to be met:

1. One unit in Mode 5 for at least 24 hours with the core and fuel pools connected through the reactor cavity

2. Spray pond temperature is maintained below 82°F

3. ESSW Pumphouse doors or dampers aligned to provide adequate cooling

4. Designated personnel to open the spray array valves and close the bypass valve

Based on the above discussion, one division of RHRSW and ESW will remain functional throughout a LOOP and temperatures will remain within current analytical bounds assuming the failure of the division unaffected by transformer replacement.

RAI 2:

In Table 1 in the enclosure to the LAR dated January 28, 2016 (pages 16 through 27 of 30), the licensee listed Unit 2 and common loads that are powered by Unit 1 Class 1 E 480 V transformers and are affected by de-energization with the associated Limiting Conditions for Operation (LCO) and Technical Requirements for Operation (TRO) implications.

In Enclosure 1 to the licensee's letter dated April 6, 2016, the licensee provided a listing of loads from the motor control centers (MCCs) powered by the Unit 1 Class 1 E 480 V transformers that will be replaced as identified in the LAR.

From a correlation of the loads listed in Table 1 of the LAR dated January 28, 2016, with the loads identified Enclosure 1 of the letter dated April 6, 2016, the NRC staff notes that a small percentage of the loads listed in Enclosure 1 is subsequently identified in Table 1 of the LAR as affecting Unit 2 LCOs and TROs. Many of the affected loads listed in Enclosure 1 have identifiers that do not clearly distinguish between Unit 1, Unit 2, and common loads. Therefore, the NRC staff requests that the licensee:

a. Provide a listing of all Unit 2 or common loads powered from the Unit 1 480 V transformers (1X210, 1X220, 1X230, and 1X240) listed in Enclosure 1 and that are:

    1) safety related or Class 1 E

    and

    2) not already identified in Table 1

b. For any loads identified above, determine if any LCOs or TCOs are associated with these loads, and discuss additional actions (if applicable) necessary to justify the LAR.

Response:

a. See Enclosure 1.

b. There are no additional LCOs or TROs associated with this equipment. As a result no additional actions are required.

RAI 3:

In Table 1 in the enclosure to the LAR dated January 28, 2016, the licensee has identified TRO 3.7.6 associated with the Engineered Safeguard Service Water (ESSW) Pumphouse Ventilation System. When either transformer 1X210 or 1X220 is being replaced, four ESSW fans are inoperable. The licensee stated in Table 1 that two ESW pumps and one RHRSW pump would be declared inoperable after 36 hours in accordance with TRO 3.7.6. The NRC staff does not have TRO 3.7.6 to review, and it is not clear why only one RHRSW pump would be inoperable. The staff requests that the licensee:

a. Explain why only one RHRSW pump becomes inoperable after 36 hours with two RHRSW fans out of service when either 1X210 or 1X220 is being replaced.

b. Provide a copy of TROs 3.7.6, 3.8.6, 3.7.9, 3.3.4, and 3.11.2.6 (i.e., TROs referenced in Table 1).

Response:

a. Table 1 provides the details of the required LCO entries and the basis for the required timeframe. Due to the loss of the MCC, one division of ESSW Pumphouse ventilation will not be operable. Per the SSES Technical Requirements Manual Section 3.7.6, the associated pumps in that division need to be declared inoperable if at least two ventilation subsystems are not restored to operable status within 36 hours. Both RHRSW pumps (Unit 1 and Unit 2 pump) and both ESW pumps in the affected division will become inoperable. The table incorrectly identifies that only 1 RHRSW pump would be declared inoperable.

b. Copies of TRM Sections 3.7.6, 3.8.6, 3.7.9, 3.3.4, and 3.11.2.6 are provided in Enclosure 2. Common TROs (Unit 0; used by both Unit 1 and 2) only have 1 TRO filed under Unit 1. These TRM sections list all associated TRO actions and allowed timeframes for the completion of those actions. An additional TRO not previously identified is also provided (TRO 3.7.1). TRO 3.7.1 covers the operability of the ESW system in Modes 4 and 5 and also during movement of irradiated fuel in Secondary Containment.

RAI 4:

On page 8 of the enclosure to the LAR dated January 28, 2016, the licensee provides the sequence/flow path for replacement of a 480 V Engineered Safeguard System (ESS) Load Center (LC) Transformer and information that applies throughout the evolution. The following questions relate to provisions that the license will make in order to limit the potential loss of power to Unit 2 equipment during the replacement of all Unit 1 480 V ESS LC Transformers that feed both units:

a. The licensee provided a list of surveillances that will be performed prior to the transformer replacement sequence. What test/surveillance will the licensee perform to verify that all structures, systems, and components are operable prior to entering the transformer replacement sequence?

b. What compensatory measures will the licensee take in order to limit the potential loss of power to Unit 2 during the replacement of all Unit 1 480 V ESS LC Transformers (e.g., scheduling the evolution in order to avoid anticipated severe weather conditions, corridor the work zone as a Protected Area, restrictions on the maintenance of the switchyard, contacting the grid system load dispatcher to ensure no significant grid perturbations are expected)?

Response:

The station performs surveillances as required by Technical Specifications and the Technical Requirements Manual. As required by 10 CFR 50.65(a)(4), the risk of performing maintenance is assessed and mitigated prior to commencing. The control and assurance of safety required to perform this work is built in to normal station processes as required by regulation.

a. Assurance of systems capabilities during the evolution:

- Since this work impacts power sources on the Class 1E Distribution system, surveillance testing is focused on testing associated with Diesel Generator capability to power all other ESS busses. SR requirements 3.8.1.3/3.8.1.7 are performed under approved station procedures for each emergency diesel generator (EDG). SSES has 4 EDGs that are connected to the class 1E distribution system to meet LCO 3.8.1. Diesels are tested monthly to ensure the ability to start from standby condition and achieve rated parameters within their required start times. Additionally, surveillance requirements ensure the EDGs are capable of providing emergency power for the full duration of which they are required.

- Prior to transformer replacement, the 24 month LOCA/LOOP surveillance will be performed for the same division in the maintenance window. This assures that response of the other bus in that division and the diesel including safety related loads and load timers are all operable and performing as designed.

- Prior to commencing transformer work, a review will be performed to determine if LCO 3.0.6 has been applied to either unit for any reason. If it has, a Loss of Safety Function analysis is performed. This ensures the ability to perform a safety function assumed in the accident analysis can be performed with the equipment verified operable. A Loss of Safety Function (LOSF) exists when, assuming no concurrent single failure, loss of offsite power, or loss of on-site diesel generator(s), a safety function assumed in the accident analysis cannot be performed. This LOSF review ensures all other systems structures and components are operable prior to commencing transformer work.

b. Actions to be taken during the evolution:

- Actions to be taken in severe weather conditions are implemented by Operations shift personnel using approved procedures. These procedures instruct the evaluation and termination of non-essential or operationally risk significant activities. This includes discussion with transmission to evaluate impact of weather to the grid.

- When notified, station procedures require the evaluation of work and assessment of risk based on grid operator notifications of alerts/warnings by operations shift supervision and work management.

- The risk of emergent conditions is governed by approved station procedures which ensure the emergent conditions are included in the previously performed

risk assessment and ensure the reassessed risk is acceptable. The online work week manager performs risk assessments for work performed in Modes 1, 2, and 3. The outage risk assessor performs EOOS shutdown risk assessments for work in Modes 4 and 5. The potential impact of severe weather on upcoming work is considered in these assessments.

- One division of Diesel generators (2 DGs on the opposite division) is protected to ensure reliable electrical power to supply the outage Unit key safety functions. This also facilitates strict control of entry into those DG rooms and limits what activities are allowed to occur. This ensures that reliable AC power to the opposite division will be present during a LOOP concurrent with transformer replacement.

- The offsite power sources of TS 3.8.1 are both protected during the outage. The SSES portions of this protection are governed by the protected equipment program. Protection also extends to the switchyard owned by PPL Electric Utilities. The protection of components owned by PPL electric utilities needed by Susquehanna is protected using PPL Electric utilities processes. By procedure, SSES approves the protection scheme and references these schemes in SSES protection clearances. The interface between PPL electric utilities and Susquehanna is governed by a separate procedure.

- The division opposite the transformer being replaced does not have work going on in parallel. This is controlled by the outage schedule and the status file review that occurs during the divisional swap. Additionally the divisional windows have their own codes for shutdown equipment out of service and as such are captured when risk is run in the EOOS program. Protected equipment on the opposite division also includes Core Spray/RHR/RHRSW/ESW/Power supplies to support the key safety functions of decay heat removal and inventory control.

- The opposite division is also supporting decay heat removal and therefore has power supplies and support systems protected to ensure the key safety function of DHR is not compromised. Support systems include RHRSW and ESW. The protection of ESW to support DHR also maintains its availability to support Unit 2 loads and 4 EDGs.

RAI 5:

On page 3 of the enclosure to the LAR dated January 28, 2016, the licensee stated that the ESS LC supplies power to the individual 480 V loads and to MCCs that power instrument alternating current (AC) distribution panels, 125 and 250 V direct current (DC) battery chargers, and essential plant lighting. Discuss in detail the impact of the replacement of a Unit 1 480 V ESS LC Transformer on the Unit 2 instrument AC and DC power system loads. Explain how the Unit 2 DC power system continues to permit functioning of structures, systems, and components important to safety during the replacement of a Unit 1 480 V ESS LC Transformer.

Response:

The impacted Unit 2 instrument AC and DC power system loads supplied by Unit 1 are listed below.

Load	Normal Power Source	Alternate Power Source
2D613 - U-2 125V DC BATTERY CHARGER 0B516071	0B516	Can be aligned to 2B210 via 0-ATS-516
2D623 - U-2 125V DC BATTERY CHARGER 0B526071	0B526	Can be aligned to 2B220 via 0-ATS-526
2D633 - U-2 125V DC BATTERY CHARGER 0B536071	0B536	Can be aligned to 2B230 via 0-ATS-536
2D643 - U-2 125V DC BATTERY CHARGER 0B536071	0B546	Can be aligned to 2B240 via 0-ATS-546

Based on all loads above having alternate power sources, the Unit 2 DC power system continues to permit functioning of structures, systems, and components important to safety during the replacement of a Unit 1 480V ESS LC Transformer Replacement. Loads will be aligned to alternate power sources as required to complete the work.

RAI 6:

In Enclosure 1 to the April 6, 2016, letter, the licensee provided a table with the affected loads listed by transformer. For the Unit 2 Class 1 E loads powered from Unit 1, identify the alternate source of power/alternate train that would be used during the Unit 1 transformer replacements.

Response:

The only affected Unit 2 loads affected by the proposed evolution are the battery chargers identified in RAI 5. To support the transformer replacement activities, the chargers will be aligned to their alternate power sources as specified.

RAI 7:

The enclosure to the LAR dated January 26, 2016 (pages 8 and 9 of 30) presents a list of bulleted items that will apply throughout the evolution and a flow path for replacement. Provide more complete justification, including time estimates for why a full 7-day CT is needed.

Response:

Work schedules developed by experienced schedulers were drafted using typical/historical values for a 480 V ESS Load Center transformer replacement evolution. The schedules show that 108 hours of work is required strictly to replace the transformer.
This includes time to perform all work that cannot be performed outside of the LCO, such as:

- Clearance order application
- Pre-evolution testing and maintenance
- Engineering review of test results that may influence the scope or schedule of work to be performed
- The replacement itself
- Work that supports the replacement evolution such as scaffold, rigging, welding
- Post-evolution testing and maintenance

The schedule considers human factors such as shift turnover and fatigue rule restrictions, further making the estimate realistic. The schedule does not consider any contingent replacements that may occur. This could include replacement of the surge arrestors, cables, and various other components. The risk of unanticipated outcomes weighed against Completion Times is a primary driver in planning evolutions such as this. The anticipated duration of 108 hours is approximately 65% of the requested time (168 hours). This will accommodate unexpected responses or maintenance that may result during the transformer replacement.

Enclosure 1 to PLA-7537

Susquehanna Nuclear, LLC
Amendment Request for Temporary Change of
Unit 2 Technical Specifications 3.7.1 and 3.8.7

Affected Loads

1X210	1	0P514A EDG Fuel Oil Xfer Pump E-257 Sh 1A
	2	HV-01110A EDG Cooler in 'B' Loop Supply Vlv E-146 Sh 10
	3	0P531A EDG Stby Jacket Water Pump E-259 Sh 2
	4	HV-01122A EDG Cooler out 'A' Loop Return Vlv E-146 Sh 9A
	5	0P533A EDG Stdby Lube Oil Pump E-259 Sh 5
	6	HV-01120A EDG Cooler out 'B' Loop Return Vlv E-146 Sh 10A
	7	HV-01112A EDG Cooler in 'A' Loop Supply Vlv E-146 Sh 9
	8	0P532A EDG Pre Lube Pump E-259 Sh 6
	9	0X507 480/277V Xfrmr supply to 0C577A
	10	0C577A EDG HVAC Panel E-193 Sh 2
	11	0E508A EDG Jacket Wtr Heater E-259 Sh 4
	12	0E525A EDG Lube Oil Heater E-259 Sh 7
	13	0V512A EDG Vent Supp Fan E-193 Sh 1
	14	0E570A EDG Space Htr E-259 Sh 12
	15	Norm Supp to 2D613 125 VDC Batt Chrgr for U2 E-26 Sh 1B (alt supp port diesel gen)
	16	0P530A EDG Jacket Wtr Circ Pump E-259 Sh 3
	17	HV-01201A1 RHRSW Spray Pond Drain Vlv E-150 Sh 34
	18	0X512 480/240-120V Xfrmr supply to 0C578
	19	0C578 ESSW Pumphouse HVAC Control Panel E-207 Sh 2
	20	HV-01201A2 RHRSW Spray Pond Drain Vlv E-150 Sh 34
	21	*HV-08602A Emerg Switchgear Rm Chill Wtr Bypass Vlv E-214 Sh 13
	22	*HV-08603A Emerg Switchgear Rm Chill Wtr Supply Vlv E-214 Sh 13
1X220	23	0P514B EDG Fuel Oil Xfer Pump E-257 Sh 1B
	24	HV-01110B EDG Cooler in 'B' Loop Supply Vlv E-146 Sh 10B
	25	0P531B EDG Stby Jacket Water Pump E-259 Sh 2
	26	HV-01122B EDG Cooler out 'A' Loop Return Vlv E-146 Sh 9C
	27	0P533B EDG Stdby Lube Oil Pump E-259 Sh 5
	28	HV-01120B EDG Cooler out 'B' Loop Return Vlv E-146 Sh 10C
	29	HV-01112B EDG Cooler in 'A' Loop Supply Vlv E-146 Sh 9B
	30	0P532B EDG Pre Lube Pump E-259 Sh 6
	31	0X508 480/240-120V Xfrmr to 0C577B
	32	0E525B EDG Lube Oil Heater E-259 Sh 7
	33	0E508B EDG Jacket Wtr Heater E-259 Sh 4
	34	0V512B EDG Vent Supp Fan E-193 Sh 1A
	35	0E570B EDG Space Htr E-259 Sh 12
	36	Norm Supp to 2D623 125 VDC Batt Chrgr for U2 E-26 Sh 1B (alt supp port diesel gen)
	37	0P530B EDG Jacket Wtr Circ Pump E-259 Sh 3
	38	0X513 480/240-120V Xfrmr supply to 0C579
	39	0C579 ESSW Pumphouse HVAC Control Panel E-207 Sh 4
	40	HV-01201B2 RHRSW Spray Pond Drain Vlv E-150 Sh 34
	41	HV-01201B1 RHRSW Spray Pond Drain Vlv E-150 Sh 34
	42	*HV-08601B Emerg Switchgear Rm Chill Wtr Return Vlv E-214 Sh 13
*Electrically disabled		

1X230	1	0P514C EDG Fuel Oil Xfer Pump E-257 Sh 10
	2	HV-01110C EDG Cooler in 'B' Loop Supply Vlv E-146 Sh 10D
	3	0P531C EDG Stby Jacket Water Pump E-259 Sh 2
	4	HV-01122C EDG Cooler out 'A' Loop Return Vlv E-146 Sh 9E
	5	0P533C EDG Stdby Lube Oil Pump E-259 Sh 5
	6	HV-01120C EDG Cooler out 'B' Loop Return Vlv E-146 Sh 10E
	7	HV-01112C EDG Cooler in 'A' Supply Vlv E-146 Sh 9D
	8	0P532C EDG Pre Lube Pump E-259 Sh 6
	9	0X509 480/240-120V Xfrmr to 0C577C
	10	0C577C DG HVAC Panel E-193 Sh 20
	11	0E525C EDG Lube Oil Heater E-259 Sh 7
	12	0E508C EDG Jacket Wtr Heater E-259 Sh 4
	13	0V512C EDG Supply Fan E-193 Sh 1B
	14	0E570C EDG Space Heater E-259 Sh 12
	15	2D633 125 VDC Battery Charger Unit 2 E-26 Sh 1B
	16	0P530C EDG Jacket Wtr Circ Pump E-259 Sh 3
	17	*HV-08601A Emerg. Switchgear Rm Chill Wtr Return Vlv E-214 Sh 13
	18	0K115A Ctrl Struc Chiller Pumpout Compressor E-214 Sh 3
1X240	19	0P514D EDG Fuel Oil Xfer Pump E-257 Sh 1
	20	HV-01110D EDG Cooler in 'B' Loop Supply Vlv E-146 Sh 10F
	21	0P531D EDG Stby Jacket Water Pump E-259 Sh 2
	22	HV-01122D EDG Cooler out 'A' Loop Return Vlv E-146 Sh 9G
	23	0P533D EDG Stdby Lube Oil Pump E-259 Sh 5
	24	HV-01120D EDG Cooler out 'B' Loop Return Vlv E-146 Sh 10G
	25	HV-01112D EDG Cooler in 'A' Supply Vlv E-146 Sh 9L
	26	0P532D EDG Pre Lube Pump E-259 Sh 6
	27	0X510 480/240-120V Xfrmr to 0C577D
	28	0C577D DG HVAC Panel E-193 Sh 2D
	29	0E525D EDG Lube Oil Heater E-259 Sh 7
	30	0E508D EDG Jacket Wtr Heater E-259 Sh 4
	31	0V512D EDG Supply Fan E-193 Sh 1C
	32	0E570D EDG Space Heater E-259 Sh 12
	33	2D643 125 VDC Battery Charger D for Unit 2 E-26 Sh 1
	34	0P530D EDG Jacket Wtr Circ Pump E-259 Sh 3
	35	0K115B Pumpout compressor for Ctrl Struc Chill E-214 Sh 3
	36	*HV-08603B Emerg Switchgear Rm Wtr Supp Vlv E-214 Sh 27
	37	*HV-08602B Emerg Switchgear Rm Wtr Bypass Vlv E-214 Sh 26
*Electrically disabled		

Enclosure 2 to PLA-7537

Susquehanna Nuclear, LLC
Amendment Request for Temporary Change of
Unit 2 Technical Specifications 3.7.1 and 3.8.7

Copies of TRO documents

3.11 Radioactive Effluents

3.11.2 Gaseous Effluents

3.11.2.6 Radioactive Gaseous Effluent Monitoring Instrumentation

TRO 3.11.2.6 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.11.2.6-1 shall be OPERABLE with their setpoints established in accordance with the ODCM to ensure that the limits of Requirement 3.11.2.1 are not exceeded.

APPLICABILITY: According to Table 3.11.2.6-1

ACTIONS

---------- NOTE ----------
1. Separate condition entry is allowed for each channel.

2. The provisions of TRO 3.0.6 are not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required to ensure that the limits of Requirement 3.11.2.1 are not exceeded	A.1 Suspend the release of radioactive gaseous effluents monitored by the affected channel OR A.2 Declare the channel inoperable	Immediately Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Reactor Building Ventilation System Noble Gas Activity Monitor low range channel inoperable	B.1 Take grab samples AND	Once per 8 hours while release is in progress.
	B.2 Analyze grab samples for isotopic activity to the required LLDs for principal noble gas gamma emitters (Table 3.11.2.1-1) AND	Within 24 hours of grab sample
	B.3 Restore monitoring instrumentation	30 days
C. Deleted		
D. Reactor Building Ventilation Monitoring System Effluent System Flow Rate Monitor or Sampler Flow Rate Monitor inoperable	D.1 Estimate flow rate AND	Once per 4 hours while release is in progress
	D.2 Restore monitoring instrumentation	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Turbine Building Ventilation System Noble Gas Activity Monitor low range channel inoperable	E.1 Verify mechanical vacuum pump is not in operation AND E.2 Take grab samples AND E.3 Analyze grab samples for isotopic activity to the required LLDs for the principal noble gas gamma emitters (Table 3.11.2.1-1) AND E.4 Restore monitoring instrumentation	Immediately Once per 8 hours while release is in progress Within 24 hours after sample 30 days
F. Deleted		
G. Turbine Building Ventilation Monitoring System: Effluent Flow Rate Monitor or Sample (Bypass or Low Range) Flow Rate Monitor inoperable	G.1 Estimate flow rate AND G.2 Restore monitoring instrumentation	Once per 4 hours while release is in progress. 30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Standby Gas Treatment System Noble Gas Activity Monitor low range channel inoperable	H.1 Take grab samples AND H.2 Analyze grab samples for isotopic activity to the required LLDs for principal noble gas gamma emitters (Table 3.11.2.1-1) AND H.3 Restore monitoring instrumentation	Once per 4 hours during operation of SGTS Within 24 hours of grab sample being taken 30 days
I. Deleted		
J. SGTS Ventilation Monitoring System Effluent flow rate monitor or sample flow rate monitor inoperable	J.1 Estimate flow rate AND J.2 Restore monitoring instrumentation	Once per 4 hours during operation of SGTS 30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
K. Required Actions and Completion Times not met for Conditions B through J	K.1 Explain why this inoperability was not corrected in a timely manner	In the next Radioactive Effluent Release Report per TS Section 5.6

TECHNICAL REQUIREMENT SURVEILLANCE

---------- NOTE ----------
Refer to Table 3.11.2.6-1 to determine which TRSs apply for each Monitoring Function.

SURVEILLANCE		FREQUENCY
TRS 3.11.2.6.1	Perform CHANNEL CHECK	24 hours
TRS 3.11.2.6.2	Deleted	
TRS 3.11.2.6.3	Perform Source Check	31 days
TRS 3.11.2.6.4	Perform CHANNEL FUNCTIONAL TEST	92 days
TRS 3.11.2.6.5	Perform CHANNEL CALIBRATION	24 months

TABLE 3.11.2.6-1 (Page 1 of 3)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABILITY	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
1. REACTOR BUILDING VENTILATION MONITORING SYSTEM			
a. Noble Gas Activity Monitor (Low Range)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.3 TRS 3.11.2.6.4 TRS 3.11.2.6.5
b. Deleted			
c. Deleted			
d. Effluent System Flow Rate Monitor	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
e. Sampler Flow Rate Monitor	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5

(continued)

TABLE 3.11.2.6-1 (Page 2 of 3)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABILITY	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
2. TURBINE BUILDING VENTILATION MONITORING SYSTEM			
a. Noble Gas Activity Monitor (Low Range)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.3 TRS 3.11.2.6.4 TRS 3.11.2.6.5
b. Deleted			
c. Deleted			
d. Effluent System Flow Rate Monitor	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
e. Sample Flow Rate Monitor (Bypass)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
f. Sample Flow Rate Monitor (Low Range)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5

(continued)

TABLE 3.11.2.6-1 (Page 3 of 3)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABILITY	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
3. STANDBY GAS TREATMENT SYSTEM (STGS) MONITOR			
a. Noble Gas Activity Monitor (Low Range)	During operation of SGTS[(a)]	1	TRS 3.11.2.6.1 TRS 3.11.2.6.3 TRS 3.11.2.6.4 TRS 3.11.2.6.5
b. Deleted			
c. Deleted			
d. Effluent System Flow Rate Monitor	During operation of SGTS[(a)]	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
e. Sampler Flow Rate Monitor	During operation of SGTS[(a)]	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5

[(a)] TRO 3.0.4.c is applicable.

3.11 Radioactive Effluents

3.11.2 Gaseous Effluents

3.11.2.6 Radioactive Gaseous Effluent Monitoring Instrumentation

TRO 3.11.2.6 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.11.2.6-1 shall be OPERABLE with their setpoints established in accordance with the ODCM to ensure that the limits of Requirement 3.11.2.1 are not exceeded.

APPLICABILITY: According to Table 3.11.2.6-1

ACTIONS

----------NOTE----------

1. Separate condition entry is allowed for each channel.

2. The provisions of TRO 3.0.6 are not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required to ensure that the limits of Requirement 3.11.2.1 are not exceeded	A.1 Suspend the release of radioactive gaseous effluents monitored by the affected channel OR A.2 Declare the channel inoperable	Immediately Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Reactor Building Ventilation System Noble Gas Activity Monitor low range channel inoperable	B.1 Take grab samples AND B.2 Analyze grab samples for isotopic activity to the required LLDs for principal noble gas gamma emitters (Table 3.11.2.1-1) AND B.3 Restore monitoring instrumentation.	Once per 8 hours while release is in progress. Within 24 hours of grab sample 30 days
C. Deleted		
D. Reactor Building Ventilation Monitoring System Effluent System Flow Rate Monitor or Sampler Flow Rate Monitor inoperable	D.1 Estimate flow rate. AND D.2 Restore monitoring instrumentation.	Once per 4 hours while release is in progress 30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Turbine Building Ventilation System Noble Gas Activity Monitor low range channel inoperable	E.1 Verify mechanical vacuum pump is not in operation. AND E.2 Take grab samples. AND E.3 Analyze grab samples for isotopic activity to the required LLDs for principal noble gas gamma emitters (Table 3.11.2.1-1). AND E.4 Restore monitoring instrumentation	Immediately Once per 8 hours while release is in progress Within 24 hours after sample 30 days
F. Deleted		
G. Turbine Building Ventilation Monitoring System: Effluent Flow Rate Monitor or Sample (Bypass or Low Range) Flow Rate Monitor inoperable	G.1 Estimate flow rate. AND G.2 Restore monitoring instrumentation	Once per 4 hours while release is in progress. 30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Standby Gas Treatment System Noble Gas Activity Monitor low range channel inoperable	H.1 Take grab samples. AND	Once per 4 hours during operation of SGTS
	H.2 Analyze grab samples for isotopic activity to the required LLDs for principal noble gas gamma emitters (Table 3.11.2.1-1). AND	Within 24 hours of grab sample being taken.
	H.3 Restore monitoring instrumentation.	30 days
I. Deleted		
J. SGTS Ventilation Monitoring System Effluent flow rate monitor or sample flow rate monitor Inoperable.	J.1 Estimate flow rate. AND	Once per 4 hours during operation of SGTS
	J.2 Restore monitoring Instrumentation.	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
K. Required Actions and Completion Times not met for Conditions B through J.	K.1 Explain why this inoperability was not corrected in a timely manner.	In the next Radioactive Effluent Release Report per TS Section 5.6.

TECHNICAL REQUIREMENT SURVEILLANCE

----------NOTE----------
Refer to Table 3.11.2.6-1 to determine which TRSs apply for each Monitoring Function.

SURVEILLANCE		FREQUENCY
TRS 3.11.2.6.1	Perform CHANNEL CHECK	24 hours
TRS 3.11.2.6.2	Deleted	
TRS 3.11.2.6.3	Perform Source Check	31 days
TRS 3.11.2.6.4	Perform CHANNEL FUNCTIONAL TEST	92 days
TRS 3.11.2.6.5	Perform CHANNEL CALIBRATION	24 months

TABLE 3.11.2.6-1 (Page 1 of 3)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

	FUNCTION	APPLICABILITY	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
1.	REACTOR BUILDING VENTILATION MONITORING SYSTEM			
a.	Noble Gas Activity Monitor (Low Range)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.3 TRS 3.11.2.6.4 TRS 3.11.2.6.5
b.	Deleted			
c.	Deleted			
d	Effluent System Flow Rate Monitor	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
e.	Sampler Flow Rate Monitor	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5

(continued)

TABLE 3.11.2.6-1 (Page 2 of 3)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

	FUNCTION	APPLICABILITY	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
2.	TURBINE BUILDING VENTILATION MONITORING SYSTEM			
a.	Noble Gas Activity Monitor (Low Range)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.3 TRS 3.11.2.6.4 TRS 3.11.2.6.5
b.	Deleted			
c.	Deleted			
d.	Effluent System Flow Rate Monitor	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
e.	Sample Flow Rate Monitor (Bypass)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
f.	Sample Flow Rate Monitor (Low Range)	At all Times	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5

(continued)

TABLE 3.11.2.6-1 (Page 3 of 3)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABILITY	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
3. STANDBY GAS TREATMENT SYSTEM (SGTS) MONITOR			
a. Noble Gas Activity Monitor (Low Range)	During operation of SGTS[(a)]	1	TRS 3.11.2.6.1 TRS 3.11.2.6.3 TRS 3.11.2.6.4 TRS 3.11.2.6.5
b. Deleted			
c. Deleted			
d. Effluent System Flow Rate Monitor	During operation of SGTS[(a)]	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5
e. Sampler Flow Rate Monitor	During operation of SGTS[(a)]	1	TRS 3.11.2.6.1 TRS 3.11.2.6.4 TRS 3.11.2.6.5

(a) TRO 3.0.4.c is applicable.

3.3 Instrumentation

3.3.4 TRM Post-Accident Monitoring Instrumentation

TRO 3.3.4 The TRM post-accident monitoring instrumentation channels shown in Table 3.3.4-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.4-1

ACTIONS

----------NOTES----------

1. Separate condition entry is allowed for each Function.
2. The provisions of TRO 3.0.6 are not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channel inoperable.	A.1 Enter the Condition referenced in Table 3.3.4-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.4-1.	B.1 Initiate the preplanned alternate method of monitoring the appropriate parameter(s). AND B.2 Restore the required channel to OPERABLE status.	72 hours 7 days / 30 days [c]
C. As required by Required Action A.1 and referenced in Table 3.3.4-1	C.1 Restore the required channel(s) to OPERABLE status.	30 days
D. As required by Required Action A.1 and referenced in Table 3.3.4-1	D.1 Verify a minimum 14 of the associated acoustic monitor channels and 5 of the ADS SRV acoustic monitor channels are operable.	Immediately AND Once per 24 hours thereafter

[c] COMPLETION TIME for REQUIRED ACTION B.2 is extended from 7 to 30 days during construction activities associated with the replacement of SPING equipment with VERMS equipment.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	OR	
	D.2 Verify SRV tailpipe temperature indication and alarm are available for the tailpipe associated with the inoperable acoustic monitor.	Immediately AND Once per 24 hours thereafter
	OR	
	D.3 Verify that the following alternate monitoring methods in TS Table 3.3.3.1-1 are OPERABLE: • Function 1 • Function 2 • Function 3 • Function 10	Immediately AND Once per 24 hours thereafter
	AND	
	D.4 Restore the required channel(s) to OPERABLE status.	30 days OR At next outage with containment entry, not to exceed the next refueling outage for in-accessible containment components.

TECHNICAL REQUIREMENT SURVEILLANCE

---------- NOTES ----------

1. Refer to Table 3.3.4-1 to determine which TRSs apply for each Post Accident Monitoring Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided an alternate means of monitoring the parameter or an associated function is available.

SURVEILLANCE		FREQUENCY
TRS 3.3.4.1	Perform CHANNEL CHECK	31 days
TRS 3.3.4.2	Perform CHANNEL FUNCTIONAL TEST	92 days
TRS 3.3.4.3	Perform a CHANNEL CALIBRATION. The Trip Setpoint shall be less than or equal to 0.25 of the full open noise level.	24 months
TRS 3.3.4.4	Perform CHANNEL CALIBRATION	24 months
TRS 3.3.4.5	Perform CHANNEL CALIBRATION of the Primary Containment H_2 and O_2 Analyzers.	92 days

TABLE 3.3.4-1
TRM POST-ACCIDENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	REQUIRED SURVEILLANCE
1. Suppression Chamber Air Temperature	1,2	2	C	TRS 3.3.4.1 TRS 3.3.4.4
2. Main Steam Safety/Relief Valve Position Indicator (Acoustic Monitor)	1,2	1/valve	D	TRS 3.3.4.1 TRS 3.3.4.2 TRS 3.3.4.3
3. Reactor Building Vent Noble Gas Monitor				
a. Mid Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
b. High Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
4. Standby Gas Treatment System Vent Noble Gas Monitor				
a. Mid Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
b. High Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
5. Turbine Building Vent Noble Gas Monitor				
a. Mid Range(b)	1,2	1	B	TRS 3.3.4.1 TRS 3.3.4.4
b. High Range(b)	1,2	1	B	TRS 3.3.4.1 TRS 3.3.4.4

(continued)

TABLE 3.3.4-1 (continued)
TRM POST-ACCIDENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	REQUIRED SURVEILLANCE
6. Standby Gas Treatment System Vent Stack Sampling System Flow				
a. Effluent System flow rate monitor[(b)]	1,2, (a)	1	C	TRS 3.3.4.1 TRS 3.3.4.4
b. Sampler flow rate monitor[(b)]	1,2, (a)	1	C	TRS 3.3.4.1 TRS 3.3.4.4
7. Turbine Building Vent Stack Sampling System Flow				
a. Effluent System flow rate monitor[(b)]	1,2	1	C	TRS 3.3.4.1 TRS 3.3.4.4
b. Sample flow rate monitor[(b)] (Mid/High Range & Bypass)	1,2	1	C	TRS 3.3.4.1 TRS 3.3.4.4
8. Containment H_2 and O_2 Analyzer[(b)]	1,2	2	C	TRS 3.3.4.1 TRS 3.3.4.5

(a) When moving irradiated fuel in the secondary containment.
(b) TRO 3.0.4.c is applicable.

3.3 Instrumentation

3.3.4 TRM Post-Accident Monitoring Instrumentation

TRO 3.3.4 The TRM post-accident monitoring instrumentation channels shown in Table 3.3.4-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.4-1

ACTIONS

----------NOTES----------

1. Separate condition entry is allowed for each Function.
2. The provisions of TRO 3.06 are not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channel inoperable.	A.1 Enter the Condition referenced in Table 3.3.4-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.4-1.	B.1 Initiate the preplanned alternate method of monitoring the appropriate parameter(s). AND B.2 Restore the required channel to OPERABLE status.	72 hours 7 days / 30 days [c]
C. As required by Required Action A.1 and referenced in Table 3.3.4-1	C.1 Restore the required channel(s) to OPERABLE status.	30 days
D. As required by Required Action A.1 and referenced in Table 3.3.4-1	D.1 Verify a minimum 14 of the associated acoustic monitor channels and 5 of the ADS SRV acoustic monitor channels are operable.	Immediately AND Once per 24 hours thereafter

[c] COMPLETION TIME for REQUIRED ACTION B.2 is extended from 7 days to 30 days during construction activities associated with the replacement of SPING equipment with VERMS equipment.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	OR	
	D.2 Verify SRV tailpipe temperature indication and alarm are available for the tailpipe associated with the inoperable acoustic monitor.	Immediately AND Once per 24 hours thereafter
	OR	
	D.3 Verify that the following alternate monitoring methods in TS Table 3.3.3.1-1 are OPERABLE: • Function 1 • Function 2 • Function 3 • Function 10	Immediately AND Once per 24 hours thereafter
	AND	
	D.4. Restore the required channel(s) to OPERABLE status.	30 days OR At next outage with containment entry, not to exceed the next refueling outage for in-accessible containment components.

TECHNICAL REQUIREMENT SURVEILLANCE

----------NOTES----------

1. Refer to Table 3.3.4-1 to determine which TRSs apply for each Post Accident Monitoring Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided an alternate means of monitoring the parameter or an associated function is available.

SURVEILLANCE		FREQUENCY
TRS 3.3.4.1	Perform CHANNEL CHECK	31 days
TRS 3.3.4.2	Perform CHANNEL FUNCTIONAL TEST	92 days
TRS 3.3.4.3	Perform a CHANNEL CALIBRATION. The Trip Setpoint shall be less than or equal to 0.25 of the full open noise level.	24 months
TRS 3.3.4.4	Perform CHANNEL CALIBRATION	24 months
TRS 3.3.4.5	Perform CHANNEL CALIBRATION of the Primary Containment H_2 and O_2 Analyzers.	92 days

TABLE 3.3.4-1
TRM POST-ACCIDENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	REQUIRED SURVEILLANCE
1. Suppression Chamber Air Temperature	1,2	2	C	TRS 3.3.4.1 TRS 3.3.4.4
2. Main Steam Safety/Relief Valve Position Indicator (Acoustic Monitor)	1,2	1/valve	D	TRS 3.3.4.1 TRS 3.3.4.2 TRS 3.3.4.3
3. Reactor Building Vent Noble Gas Monitor				
a. Mid Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
b. High Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
4. Standby Gas Treatment System Vent Noble Gas Monitor				
a. Mid Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
b. High Range[(b)]	1,2, (a)	1	B	TRS 3.3.4.1 TRS 3.3.4.4
5. Turbine Building Vent Noble Gas Monitor				
a. Mid Range[(b)]	1,2	1	B	TRS 3.3.4.1 TRS 3.3.4.4
b. High Range[(b)]	1,2	1	B	TRS 3.3.4.1 TRS 3.3.4.4

(continued)

TABLE 3.3.4-1 (continued)
TRM POST-ACCIDENT MONITORING INSTRUMENTATION

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	REQUIRED SURVEILLANCE
6. Standby Gas Treatment System Vent Stack Sampling System Flow				
a. Effluent System flow rate monitor[(b)]	1,2, (a)	1	C	TRS 3.3.4.1 TRS 3.3.4.4
b. Sampler flow rate monitor[(b)]	1,2, (a)	1	C	TRS 3.3.4.1 TRS 3.3.4.4
7. Turbine Building Vent Stack Sampling System Flow				
a. Effluent System flow rate monitor[(b)]	1,2	1	C	TRS 3.3.4.1 TRS 3.3.4.4
b. Sample flow rate monitor[(b)] (Mid/High Range & Bypass)	1,2	1	C	TRS 3.3.4.1 TRS 3.3.4.4
8. Containment H_2 and O_2 Analyzer[(b)]	1,2	2	C	TRS 3.3.4.1 TRS 3.3.4.5

(a) When moving irradiated fuel in the secondary containment.
(b) TRO 3.0.4.c is applicable.

3.7 Plant Systems

3.7.1 Emergency Service Water System (ESW) Shutdown

TRO 3.7.1 Two ESW Subsystems shall be OPERABLE

Applicability: Modes 4 and 5
When handling irradiated fuel in the secondary containment

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pump in an ESW Subsystem Inoperable	A.1 Initiate Action to verify that adequate cooling capability remains available for the diesel generators required to be OPERABLE by Technical Specification LCO 3.8.2	Immediately
B. Two pumps in an ESW Subsystem Inoperable OR The ESW subsystem otherwise Inoperable	B.1 Declare the supported required equipment Inoperable (except diesel generators) AND B.2 Initiate Action to verify that adequate cooling remains available for the diesel generators required to be OPERABLE by Technical Specification LCO 3.8.2	Immediately Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Inadequate ESW Flow to required Diesel Generators	C.1 Declare the affected required diesel generator(s) inoperable	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.7.1.1	Ensure the Surveillance Requirements of LCO 3.7.2 "ESW System" are met.	As required in LCO 3.7.2

3.7 Plant Systems

3.7.6 ESSW Pumphouse Ventilation

TRO 3.7.6 Two ESSW Pumphouse Ventilation Subsystems shall be OPERABLE.

APPLICABILITY: Whenever associated RHRSW and ESW Pumps are required to be OPERABLE.

ACTIONS

---------- NOTES ----------

1. If two or more fans and one or more dampers render ESSW Pumphouse Ventilation Subsystem fan train(s) inoperable, enter both the appropriate Condition for inoperable fan(s) and Condition D, E, F or G.

2. Dampers gagged in the appropriate position may be un-gagged intermittently under administrative controls to allow for work and/or operability testing.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Two ESSW Pumphouse Ventilation Subsystem fan trains in one or both subsystems inoperable due to inoperable fans.	A.1 Restore inoperable equipment so at least three fans in each subsystem are in OPERABLE status.	30 days
B. Three ESSW Pumphouse Ventilation Subsystem fan trains in one or both subsystems inoperable due to inoperable fans.	B.1 Restore inoperable equipment so at least two fans in each subsystem are in OPERABLE status.	36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Four fan trains in one or both subsystems inoperable due to inoperable fans.	C.1 Establish acceptable ventilation flow path. AND C.2 Restore inoperable equipment so at least two fans in each subsystem are in OPERABLE status.	2 hours 36 hours
D. ----------NOTE---------- Separate Condition entry is allowed for each damper. --- One ESSW Pumphouse Ventilation Subsystem fan train in one or both subsystems inoperable due to one or more dampers inoperable (includes previously failed dampers that are not repaired).	D.1 Track failed dampers. AND D.2 Gag damper or secure and deactivate damper actuator on the affected fans' dampers in the appropriate position.	Immediately 72 hours
E. ----------NOTE---------- Separate Condition entry is allowed for each damper. --- Two ESSW Pumphouse Ventilation Subsystem fan trains in one or both subsystems inoperable due to one or more dampers inoperable (includes previously failed dampers that are not repaired).	E.1 Gag damper or secure and deactivate damper actuator on the affected fans' dampers in the appropriate position. AND E.2 Restore all dampers in at least three fan trains in both subsystems to original design/functional status.	72 hours 30 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. ----------NOTE---------- Separate Condition entry is allowed for each damper. ---------- Three ESSW Pumphouse Ventilation Subsystem fan trains in one or both subsystems inoperable due to one or more dampers inoperable (includes previously failed dampers that are not repaired).	F.1 Gag damper or secure and deactivate damper actuator on the affected fans' dampers in the appropriate position. AND F.2 Restore all dampers in at least three fan trains in both subsystems to original design/functional status.	36 hours 30 days
G. ----------NOTE---------- Separate Condition entry is allowed for each damper. ---------- Four ESSW Pumphouse Ventilation Subsystem fan trains in one or both subsystems inoperable due to one or more dampers inoperable (includes previously failed dampers that are not repaired).	G.1 Establish acceptable ventilation flow path. AND G.2 Gag damper or secure and deactivate damper actuator on the affected fans' dampers in the appropriate position. AND G.3 Restore all dampers in at least three fan trains in both subsystems to original design/functional status.	2 hours 36 hours 30 days
H. Required Action and associated Completion Time of Conditions A, B, C, E, F or G not met.	H.1 Declare the associated ESW/RHRSW pumps inoperable.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.7.6.1	Verify that the ESSW Pumphouse Ventilation Subsystems fans start and associated dampers automatically position when their associated pump starts.	92 days

3.7 Plant Systems

3.7.9 Control Structure HVAC

TRO 3.7.9 The following Control Structure HVAC Subsystems shall be OPERABLE:

a. Control Structure Heating and Ventilating System
b. Computer Room Floor Cooling System
c. Control Structure Chilled Water
d. Battery Room Exhaust System
e. SGT Equipment Room Ventilation System (Heating)
f. SGT Equipment Room Ventilation System (Cooling)

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the secondary containment.
During CORE ALTERATIONS.
During operations with a potential for draining the reactor vessel (OPDRVs).

----------NOTE----------

1. If Conditions and Required Actions for this TRO that direct entry into LCOs are not completed. LCO 3.0.3 should be entered not TRO 3.0.3.

2. Enter applicable Conditions and Required Actions of LCO 3.7.3 "Control Room Emergency Outside Air Supply (CREOAS) System" and LCO 3.7.4 "Control Room Floor Cooling System" for Technical Specification Functions made inoperable by the inoperable Control Structure HVAC Subsystems.

3. Control Structure and Computer Room Ventilation fans are also governed by LCO 3.7.3 "Control Room Emergency Outside Air Supply (CREOAS) System."

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. A single division of subsystems a-e inoperable for its cooling or heating mode	A.1 Restore all affected subsystems to OPERABLE status	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. A single division of subsystem f inoperable	B.1 Restore the affected cooling unit to OPERABLE status	30 days
C. Both divisions of any subsystem inoperable for the cooling or heating mode	C.1 Declare affected equipment inoperable and enter all appropriate LCOs/TROs	Immediately
D. Required Action and associated Completion Time of Condition A, or B not met	D.1 Be in MODE 3 AND D.2 Be in MODE 4	12 hours 36 hours

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.7.9.1	Administratively verify that the Control Structure HVAC Subsystems are available	24 hours

3.8 Electrical Power

3.8.6 Emergency Switchgear Room Cooling

TRO 3.8.6 Two Emergency Switchgear Room Cooling subsystems shall be OPERABLE.

APPLICABILITY: Whenever associated emergency switchgear is required to be OPERABLE

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required Unit 1 Emergency Switchgear Room Cooling subsystem inoperable.	A.1 ----------NOTE---------- Applicable only in MODES 1, 2, or 3 ---------- Restore subsystem to OPERABLE status	30 days
B. Two required Unit 1 Emergency Switchgear Room Cooling subsystems inoperable.	B.1 ----------NOTE---------- Applicable only in MODES 1,2, or 3 ---------- Restore at least one required subsystem to OPERABLE status AND	12 hours (continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 ----------NOTE---------- Applicable only in MODES 4, 5, or OPDRVs, CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. --- Suspend CORE ALTERATIONS, OPDRVs, and handling irradiated fuel in the secondary containment. AND B.3 ----------NOTE---------- Applicable only in MODES 4, 5, or OPDRVs, CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment --- Initiate action to restore one subsystem to OPERABLE status.	Immediately Immediately
C. Required Action and associated Completion Time of Condition A or B not met	C.1 Declare affected distribution system inoperable and take Actions required by LCO 3.8.7 or LCO 3.8.8.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.8.6.1	Administratively verify that the Unit 1 Emergency Switchgear Room Cooling subsystem are available.	24 hours

3.8 Electrical Power

3.8.6 Emergency Switchgear Room Cooling

TRO 3.8.6 Two Emergency Switchgear Room Cooling subsystems shall be OPERABLE.

APPLICABILITY: Whenever associated emergency switchgear is required to be OPERABLE

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required Unit 2 Emergency Switchgear Room Cooling subsystem inoperable.	A.1 ----------NOTE---------- Applicable only in MODES 1, 2, or 3. ---------- Restore subsystem to OPERABLE status.	30 days
B. Two required Unit 2 Emergency Switchgear Room Cooling subsystems inoperable.	B.1 ----------NOTE---------- Applicable only in MODES 1, 2, or 3. ---------- Restore at least one required subsystem to OPERABLE status. AND	12 hours (continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 ----------NOTE---------- Applicable only in MODES 4, 5, or OPDRVs, CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. --- Suspend CORE ALTERATIONS, OPDRVs, and handling irradiated fuel in the secondary containment. AND B.3 ----------NOTE---------- Applicable only in MODES 4, 5, or OPDRVs, CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. --- Restore at least one required subsystem to OPERABLE status.	Immediately 72 hours
C. Required Action and associated Completion Time of Condition A or B not met	C.1 Declare affected distribution system inoperable and take Actions required by – Unit 2 LCO 3.8.7 or LCO 3.8.8.	Immediately
D. One required Unit 1 Emergency Switchgear Room Cooling subsystem inoperable.	D.1 ----------NOTE---------- Applicable only in Unit 2 MODES 1, 2, or 3. --- Restore subsystem to OPERABLE status.	30 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two required Unit 1 Emergency Switchgear Room Cooling subsystems inoperable.	E.1 ----------NOTE---------- Applicable only in Unit 2 MODES 1, 2, or 3. --- Restore at least one required subsystem to OPERABLE status. AND	12 hours
	E.2 ----------NOTE---------- Applicable only in Unit 2 MODES 4, 5, or OPDRV's, CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. --- Suspend CORE ALTERATIONS, OPDRVs, and handling irradiated fuel in the secondary containment. AND	Immediately
	E.3 ----------NOTE---------- Applicable only in Unit 2 MODES 4, 5, or OPDRV's, CORE ALTERATIONS, or when handling irradiated fuel in the secondary containment. --- Initiate action to restore one subsystem to OPERABLE status.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Required Action and associated Completion Time of Condition D or E not met.	F.1 Declare affected distribution system inoperable and take actions required by Unit 1 LCO 3.8.7 or LCO 3.8.8.	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.8.6.1	Administratively verify that the Unit 2 Emergency Switchgear Room Cooling Fans (2V222) are available.	24 hours
TRS 3.8.6.2	Verify that the Emergency Switchgear Room Cooler Chiller (2K210) will run for at least 60 minutes.	92 days
TRS 3.8.6.3	Verify each Emergency Switchgear Room Cooler Chiller (2K210) has the capability to maintain the design temperature of the emergency switchgear and load center rooms.	24 months