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December 23, 2013

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387(388)/2013-006-00
UNIT 1 LICENSE NO. NPF-14
UNIT 2 LICENSE NO. NPF-22
PLA-7124

Docket No 50-387
50-388

Attached is Licensee Event Report (LER) 50-387(388)/2013-006-00. The LER reports two separate instances of a loss of Secondary Containment differential pressure.

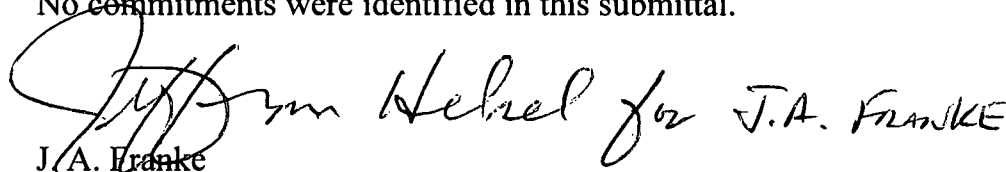
On October 31, 2013, at 0251 hours, the Susquehanna Steam Electric Station (SSES) experienced a loss of Secondary Containment differential pressure. As a result, at 0251 hours, Technical Specification Limiting Condition for Operation (LCO) 3.6.4.1 was entered for both Unit 1 and Unit 2. Secondary Containment differential pressure was subsequently recovered and the LCO was exited at 0255 hours on October 31, 2013.

On November 1, 2013, at 0309 hours, SSES experienced a loss of Secondary Containment differential pressure. As a result, at 0309 hours, LCO 3.6.4.1 was entered for both Unit 1 and Unit 2. Secondary Containment differential pressure was subsequently recovered and the LCO was exited at 0315 hours on November 1, 2013.

Using the guidance in NUREG-1022 Revision 3, both events were determined to be reportable as an Event or Condition that Could Have Prevented Fulfillment of a Safety Function in accordance with 10 CFR 50.73(a)(2)(v)(C).

There were no actual consequences to the health and safety of the public as a result of these events.

No commitments were identified in this submittal.


J.A. Franke

TE22
MRR

Attachment: LER 50-387(388)/2013-006-00

Copy: NRC Region I
Mr. J. Greives, NRC Sr. Resident Inspector
Mr. J. Whited, NRC Project Manager
Mr. L. Winker, PA DEP/BRP

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to the information collection.

| | | |
|--|-------------------------------------|--------------------------|
| 1. FACILITY NAME Susquehanna, Unit 1 | 2. DOCKET NUMBER 05000387 | 3. PAGE 1 OF 3 |
|--|-------------------------------------|--------------------------|

4. TITLE
Loss of Secondary Containment due to Differential Pressure not Meeting Technical Specification 3.6.4.1

| 5. EVENT DATE | | | 6. LER NUMBER | | | 7. REPORT DATE | | | 8. OTHER FACILITIES INVOLVED | |
|---------------|-----|------|---------------|-------------------|---------|----------------|-----|------|------------------------------|---------------|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REV NO. | MONTH | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 10 | 31 | 2013 | 2013 | - 006 - | 00 | 12 | 23 | 2013 | Susquehanna Unit 2 | 05000388 |
| | | | | | | | | | FACILITY NAME | DOCKET NUMBER |
| | | | | | | | | | | 05000 |

| | | | | | | | | | | | | |
|--|---|---|---|---|--|--|--|--|--|--|--|--|
| 9. OPERATING MODE Mode 1 | 11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply) | | | | | | | | | | | |
| | <input type="checkbox"/> 20.2201(b) | <input type="checkbox"/> 20.2203(a)(3)(i) | <input type="checkbox"/> 50.73(a)(2)(i)(C) | <input type="checkbox"/> 50.73(a)(2)(vii) | | | | | | | | |
| 10. POWER LEVEL 100 | <input type="checkbox"/> 20.2201(d) | <input type="checkbox"/> 20.2203(a)(3)(ii) | <input type="checkbox"/> 50.73(a)(2)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(viii)(A) | | | | | | | | |
| | <input type="checkbox"/> 20.2203(a)(1) | <input type="checkbox"/> 20.2203(a)(4) | <input type="checkbox"/> 50.73(a)(2)(ii)(B) | <input type="checkbox"/> 50.73(a)(2)(viii)(B) | | | | | | | | |
| | <input type="checkbox"/> 20.2203(a)(2)(i) | <input type="checkbox"/> 50.36(c)(1)(i)(A) | <input type="checkbox"/> 50.73(a)(2)(iii) | <input type="checkbox"/> 50.73(a)(2)(ix)(A) | | | | | | | | |
| | <input type="checkbox"/> 20.2203(a)(2)(ii) | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(iv)(A) | <input type="checkbox"/> 50.73(a)(2)(x) | | | | | | | | |
| | <input type="checkbox"/> 20.2203(a)(2)(iii) | <input type="checkbox"/> 50.36(c)(2) | <input type="checkbox"/> 50.73(a)(2)(v)(A) | <input type="checkbox"/> 73.71(a)(4) | | | | | | | | |
| | <input type="checkbox"/> 20.2203(a)(2)(iv) | <input type="checkbox"/> 50.46(a)(3)(ii) | <input type="checkbox"/> 50.73(a)(2)(v)(B) | <input type="checkbox"/> 73.71(a)(5) | | | | | | | | |
| <input type="checkbox"/> 20.2203(a)(2)(v) | <input type="checkbox"/> 50.73(a)(2)(i)(A) | <input checked="" type="checkbox"/> 50.73(a)(2)(v)(C) | <input type="checkbox"/> OTHER | | | | | | | | | |
| <input type="checkbox"/> 20.2203(a)(2)(vi) | <input type="checkbox"/> 50.73(a)(2)(i)(B) | <input type="checkbox"/> 50.73(a)(2)(v)(D) | Specify in Abstract below or in NRC Form 366A | | | | | | | | | |

12. LICENSEE CONTACT FOR THIS LER

| | |
|---|--|
| Facility Name T. A. Case Jr., Senior Engineer – Nuclear Regulatory Affairs | Telephone Number (Include Area Code) (570) 542-3606 |
|---|--|

| CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|---------------|--------------------|-------|--------|-----------|---------------|--------------------|
| | | | | | | | | | |

| | | | | |
|---|-------------------------------------|-------|-----|------|
| 14. SUPPLEMENTAL REPORT EXPECTED | 15. EXPECTED SUBMISSION DATE | MONTH | DAY | YEAR |
| <input checked="" type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO | | 04 | 01 | 2014 |

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On two separate occasions, Secondary Containment Zone I differential pressure was lost for a few minutes due to the trip of one of the Unit 1 Reactor Building exhaust fans. As a result of each event, Zone I differential pressure did not meet the criteria (vacuum ≥ 0.25 inch of vacuum water gauge) of Surveillance Requirement (SR) 3.6.4.1.1 and Limiting Condition for Operation (LCO) 3.6.4.1 was entered for both Unit 1 and Unit 2. The Secondary Containment Zone II and the Zone III ventilation remained in service and stable during the events. The tripped exhaust fans were subsequently started, Secondary Containment Zone I differential pressure was restored, and LCO 3.6.4.1 was exited within minutes.

Per the guidance provided in NUREG-1022, this LER is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(C) for an event or condition that could have prevented fulfillment of a safety function.

In both events, the direct cause of the loss of Secondary Containment Zone I differential pressure was the trip of Unit 1 Reactor Building exhaust fans during restoration from a routine Reactor Protection System (RPS) power supply transfer that was performed in support of maintenance. The preliminary apparent cause of fan trips is the coordination of the exhaust damper controller is such that a low flow condition exists at the exhaust fan during restoration (resetting affected lockout relays) from a RPS power supply transfer. Corrective actions include a procedure change and design modification to prevent the trip of Reactor Building exhaust fans during restoration from RPS power supply transfers. Additional evaluation of the events is in progress. Significant changes as a result of the additional evaluation will be provided in a supplemental report, if necessary.

There were no actual or potential consequences to the health and safety of the public as a result of these events.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

| 1. FACILITY NAME | 2. DOCKET | 6. LER NUMBER | | | 3. PAGE |
|---------------------|-----------|---------------|-------------------|-----------------|---------|
| Susquehanna, Unit 1 | 05000387 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 2 OF 3 |
| | | 2013 | --006-- | 00 | |

NARRATIVE

CONDITIONS PRIOR TO THE EVENT

Unit 1 - Mode 1, 100 percent Rated Thermal Power
Unit 2 - Mode 1, 100 percent Rated Thermal Power

There were no systems, structures, or components that were inoperable at the start of the event and contributed to the event.

EVENT DESCRIPTION

On October 31, 2013 at 0233 hours, operators performed a routine transfer of the Unit 1 Division I Reactor Protection System (RPS) power from its normal supply to its alternate supply in support of a maintenance activity. Upon resetting electrical relays affected by the power supply transfer, at 0251 hours, Secondary Containment (EIS Code: NG) Zone I differential pressure was lost due to the trip of one of the Unit 1 Reactor Building exhaust fans. As a result, Zone I differential pressure did not meet the criteria (vacuum \geq 0.25 inch of vacuum water gauge) of Surveillance Requirement (SR) 3.6.4.1.1 and Limiting Condition for Operation (LCO) 3.6.4.1 was entered for both Unit 1 and Unit 2 at 0251 hours. The Secondary Containment Zone II (Unit 2 Reactor Building) and the Zone III (Common Refuel Floor Area) ventilation remained in service and stable during the event. The tripped exhaust fan was subsequently started, Secondary Containment Zone I differential pressure was restored, and LCO 3.6.4.1 was exited at 0255 hours.

On November 1, 2013 at 0257 hours, operators performed a routine transfer of the Unit 1 Division I RPS power from its alternate supply to its normal supply in support of restoration from the maintenance activity. Upon resetting electrical relays affected by the power supply transfer, at 0309 hours, Secondary Containment Zone I differential pressure was lost due to the trip of the Unit 1 Reactor Building exhaust fans. As a result, Zone I differential pressure did not meet the criteria of SR 3.6.4.1.1 and LCO 3.6.4.1 was entered for both Unit 1 and Unit 2 at 0309 hours. The Secondary Containment Zone II and the Zone III ventilation remained in service and stable during the event. The tripped exhaust fans were subsequently started, Secondary Containment Zone I differential pressure was restored, and LCO 3.6.4.1 was exited at 0315 hours.

Per the guidance provided in NUREG-1022, 8-hour ENS notifications (EN#49489, EN#49492) were made to the NRC in accordance with 10 CFR 50.72(b)(3)(v)(C) for an event or condition that at the time of discovery, could have prevented the fulfillment of the safety function of Secondary Containment to control the release of radioactive material. As such, this LER is submitted in accordance with 10 CFR 50.73(a)(2)(v)(C) for an event or condition that could have prevented fulfillment of a safety function. Additional evaluation of the events is in progress. Significant changes as a result of the additional evaluation will be provided in a supplemental report, if necessary.

CAUSE OF THE EVENT

In both events, the direct cause of the loss of Secondary Containment Zone I differential pressure was the trip of Unit 1 Reactor Building exhaust fans during restoration from a routine Reactor Protection System (RPS) power supply transfer. The preliminary apparent cause of fan trips is the coordination of the exhaust damper controller is such that a low flow condition exists at the exhaust fan during restoration (resetting affected lockout relays) from a RPS power supply transfer.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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|---------------------|-----------|---------------|-------------------|-----------------|---------|
| Susquehanna, Unit 1 | 05000387 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 3 OF 3 |
| | | 2013 | --006-- | 00 | |

NARRATIVE

ANALYSIS / SAFETY SIGNIFICANCE

There were no actual or potential consequences to the health and safety of the public as a result of this event. The Secondary Containment boundary and Standby Gas Treatment systems were unaffected and, therefore, the safety function of the Secondary Containment was not lost.

CORRECTIVE ACTIONS

Corrective actions include:

- A revision to the procedure used to restore from the RPS power supply transfer to prevent a low flow trip of the exhaust fan for both units(complete)
- A design change to prevent exhaust fan trips during restoration from the RPS power supply transfer (planned)

PREVIOUS SIMILAR EVENTS

LER 50-387(388)/2013-004-00, Loss of Secondary Containment due to Differential Pressure not Meeting Technical Specification 3.6.4.1.