

Group B

FOIA/PA NO: 2014-0216

**RECORDS BEING RELEASED IN THEIR ENTIRETY**

**Barkley, Richard**

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**From:** Lew, David  
**Sent:** Monday, February 17, 2014 11:21 PM  
**To:** Dentel, Glenn  
**Cc:** Lew, David; Scott, Michael; Benner, Eric  
**Subject:** Re: NOED status update

Sounds like they may be out of the NOED in 5 hours. I would like to get confirmation before I call Gary.

Sent via My Workspace for iOS

On Monday, February 17, 2014 at 10:26:31 PM, "Dentel, Glenn" <[Glenn.Dentel@nrc.gov](mailto:Glenn.Dentel@nrc.gov)> wrote:

Work on the transformer is going well and may be operable as early as tomorrow.

I am doing home remodeling so Rich Barkley will have the branch tomorrow.

Dave, do you need any further update for 0715?

Glenn  
Sent by Blackberry

----- Original Message -----

**From:** Ziedonis, Adam  
**Sent:** Monday, February 17, 2014 04:51 PM Eastern Standard Time  
**To:** Finney, Patrick; Dentel, Glenn  
**Subject:** NOED status update

Day shift U3 run complete SAT. NRC ID'd issue with air start compressor cycling and relief valve lifting during the run. Issue did not impact ability of U3 to start. I actually ID'd this yesterday (U3 successfully started twice since then, and compressor was not cycling just prior to today's run), and it was not put in CAP. I have confidence it will be entered today based on my discussions with Ops. Additional info - there is a local N2 bottle locally valved in and pressurized (and contained in procedure) as a back-up.

This could be the final U3 NOED run. Dayshift activity went well on 24 SPT - relay testing was completed SAT, and the scaffolding was to be removed next. Tag release was scheduled for early in night shift. PSEG anticipates energizing and loading, while monitoring conditions and indications, between midnight and 0300.

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**From:** d , Adam  
**Sent:** Saturday, February 15, 2014 10:59 PM  
**To:** Scott, Michael; Dentel, Glenn; Finney, Patrick  
**Subject:** RE: SLM - 24 SPT - Request for these conditions to be given to residents

Thanks Mike that's very helpful

**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 10:50 PM  
**To:** Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.

2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.

3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

From: Dentel, Glenn  
Sent: Saturday, February 15, 2014 7:38 PM  
To: Scott, Michael  
Subject: Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney  
Salem SRI  
~~856-935-3850~~

## **Barkley, Richard**

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**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 10:23 PM  
**To:** Lew, David  
**Cc:** Dean, Bill; Lorson, Raymond; Trapp, James; Benner, Eric; Khanna, Meena; Lund, Louise; Evans, Michele; Hughey, John; Dentel, Glenn; Uhle, Jennifer; Stuchell, Sheldon; Nieh, Ho; Finney, Patrick; Ziedonis, Adam; Cook, William; Matharu, Gurcharan; Zimmerman, Jacob; Draxton, Mark; Chung, Donald; Waig, Gerald  
**Subject:** NOED for Salem Unit 2

Yesterday (Friday), PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

TS 3.8.1.1 Action a for Salem Unit 2 requires restoration of the 24 SPT to Operable status within 72 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, 2014.

The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening, including addressing all the staff evaluation criteria under Inspection Manual Chapter (IMC) 0410 Section 0410-07. The staff held a call with the licensee that evening at the licensee's request, during which the licensee verbally made its NOED request. Region I, as well as NRR Tech Spec and Electrical branches, and the NRR Divisions of Risk Assessment and Policy and Rulemaking, participated in the call. At that time, the staff raised numerous questions, most of which the licensee addressed at the time but a few of which the licensee took back to consider and respond in a subsequent call. These questions included some regarding the reliability of the "jet engines" installed on site as a compensatory measure for the SPT 24 outage, the interface with Hope Creek (to which the jet engines can also supply power), contingencies for failure of other equipment during the proposed NOED period, and re-evaluation of the list of protected equipment.

The licensee revised its draft written NOED submittal in response to the Friday call, and resubmitted the draft request for staff review. At 1800 this evening, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about various aspects of a requested NOED duration twice the 72 hours noted in the guidance, including the increased likelihood of the licensee requesting further time beyond the 6 days proposed for the NOED and the apparent inconsistency of the duration requested with the guidance quoted. Further, cognizant NRR management had determined that the nature of this request made submittal of an LAR not necessary, appropriate, or good use of staff resources. This position could be viewed as inconsistent with the guidance quoted, and was a concern to some staff members.

You, as Acting Administrator for Region I, provided an opportunity for staff with views and concerns on this matter to share them with you. You also heard my recommendation that the NOED be approved, considering the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, that there is regulatory precedent for allowing NOEDs greater than 72 hours, and that conditions would be imposed on the NOED to help address some of the staff concerns raised. Specifically, the licensee would be expected to notify the staff immediately if protected equipment failed or the schedule margin for the

planned work was used up, such that there would no longer be a reasonable expectation that the work could be completed within the NOED window. While the staff would of course consider any licensee-proposed path forward in such a situation, the staff's likely decision in such event would be to terminate the NOED and require the licensee to comply with its technical specifications.

At approximately 2015 this evening, you authorized me to grant the NOED as requested, subject to the conditions noted. I provided the verbal authorization, as well as the conditions, to the licensee at approximately 2110 this evening. There are two action items for the staff emerging from this; both pertain to NRR.

1. NRR will strongly consider revising IMC 0410 to more clearly reflect the practice of granting NOEDs for durations beyond 72 hours based on the merits of each specific case, and the possibility that such cases would not call for the licensee to submit a LAR.
2. NRR will provide the licensee references to cases in which other licensees have taken action to ensure loss of similar transformer applications can be addressed within a 72-hour LCO, thus avoiding need for a NOED. The staff would view a repeat NOED request for the same issue as very problematic.

I would like to offer my thanks to the many staff members who devoted extensive time over the weekend to bring this matter to conclusion. All interactions on this matter were conducted in a manner fully consistent with open collaborative work environment, and with appropriate first focus on safety. I don't dare attempt to name all the involved personnel here for fear I leave someone out. But I am sure their managers will recognize them for a job very well done. The licensee expressed their appreciation for the staff's professionalism on this matter.

Mike Scott  
Acting Director  
Region I Division of Reactor Projects

**From:** Finney, Patrick  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reves, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick  
**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information  
**Date:** Thursday, February 13, 2014 4:18:20 PM  
**Attachments:** [ACM13-013 24-rev 1 Station Power Transformer.doc](#)  
[ML13071A487.pdf](#)  
**Importance:** High

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Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xfmr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xfmrs along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xmfr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xfmr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xmfr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney  
Salem SRI  
856-935-3850

B 3

**From:** Finney, Patrick  
**To:** Khanna, Meena; Cook, William; Finney, Patrick; Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Questions  
**Date:** Friday, February 14, 2014 8:04:12 PM

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Here are the questions from me:

- 1) What are the results of the oil samples and dole testing today on the spare xfmr?
- 2) Request says 6 days but cover letter says 7 days.
- 3) Where is the response in question #3 to the "action taken to avoid the need for a NOED"?
- 4) When was the last time the Abnormal and recovery procedures were validated?
- 5) What is PSEG plan if gas samples on 23 and 4 SPTs are unsat?
- 6) WRT comp measures, what constitutes "during the replacement"?
- 7) Switchyard recovery diesel generator in the comp measure list but not in the list of 12c and the PRA document.
- 8) Are Operations-based comp measure to be implemented prior to taking shift, via read and sign?
- 9) Why aren't activities in swyrd prohibited during "phase A", with 24 SPT removed from service?
- 10) What actions or procedures will Operations use with ESOC updates?
- 11) Why aren't missing ice barriers, potential for Delaware ice melting or ice release considered in the weather aspect?
- 12) Fire comp measures listed in PRA document appear vague (swyd, service building). Additionally, PORC discussion suggested one roving firewatch for all areas, suggested using security officer at swyd, and suggested using maintenance technicians in swyd as ways to take credit for the watches. What are the specifics of the firewatches for these areas and what are the expectations for both the staffing and conduct of each watch?

**From:** Finney, Patrick  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Insight, thought process behind challenge (just discussion)  
**Date:** Friday, February 14, 2014 9:21:54 PM

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PB3,

Just for your info and any feedback on this before I engage with the Ops Director:

The EDG supply breaker and the 23 SPT supply breaker to the 2C 4kV bus were protected.

If you take the approach that the 2C 4kV bus itself was not protected (as PSEG seemed to suggest on phone call), the procedural guidance says that work on a bus with any associated breaker protected is to be considered as work near protected equipment and requires a form and associated RMAs.

If you take the approach that the 2C 4kV bus itself was protected, then this would constitute work on protected equipment and would require a form and associated RMAs.

A discussion with the PSEG risk staff seemed to suggest the 2C 4kV bus was protected. If you compare baseline CDF and the list of risk-important SSCs to that CDF with the 24 SPT unavailable and the list of risk-important SSCs, one sees the 2C bus rise to become an SSC that makes CDF Red if it subsequently becomes unavailable. It is this information that suggests that the SSC (2C 4kV bus) should be protected.

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From: Draxton, Mark  
Sent: Friday, February 14, 2014 21:13  
To: Finney, Patrick; Dentel, Glenn  
Cc: Ziedonis, Adam; Reyes, Brandon; Barkley, Richard  
Subject: RE: SLM - 24 SPT - Insight

Good challenge.

-----Original Message-----

From: Finney, Patrick  
Sent: Friday, February 14, 2014 8:24 PM  
To: Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
Subject: SLM - 24 SPT - Insight

Today, PSEG executed 2C 4kV UV functional testing while the 2C bus was protected. It is Adam and my assessment that this was done without following their procedures for work on protected equipment. This gives me some concern regarding PSEG's ability to discern what work should or should not occur and what RMAs are needed during said work.

**Barkley, Richard**

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**From:** Dentel, Glenn  
**Sent:** Saturday, February 15, 2014 5:07 PM  
**To:** Finney, Patrick  
**Subject:** Re: SLM - 24 SPT - PM deferral

Do you know what this PM is for?

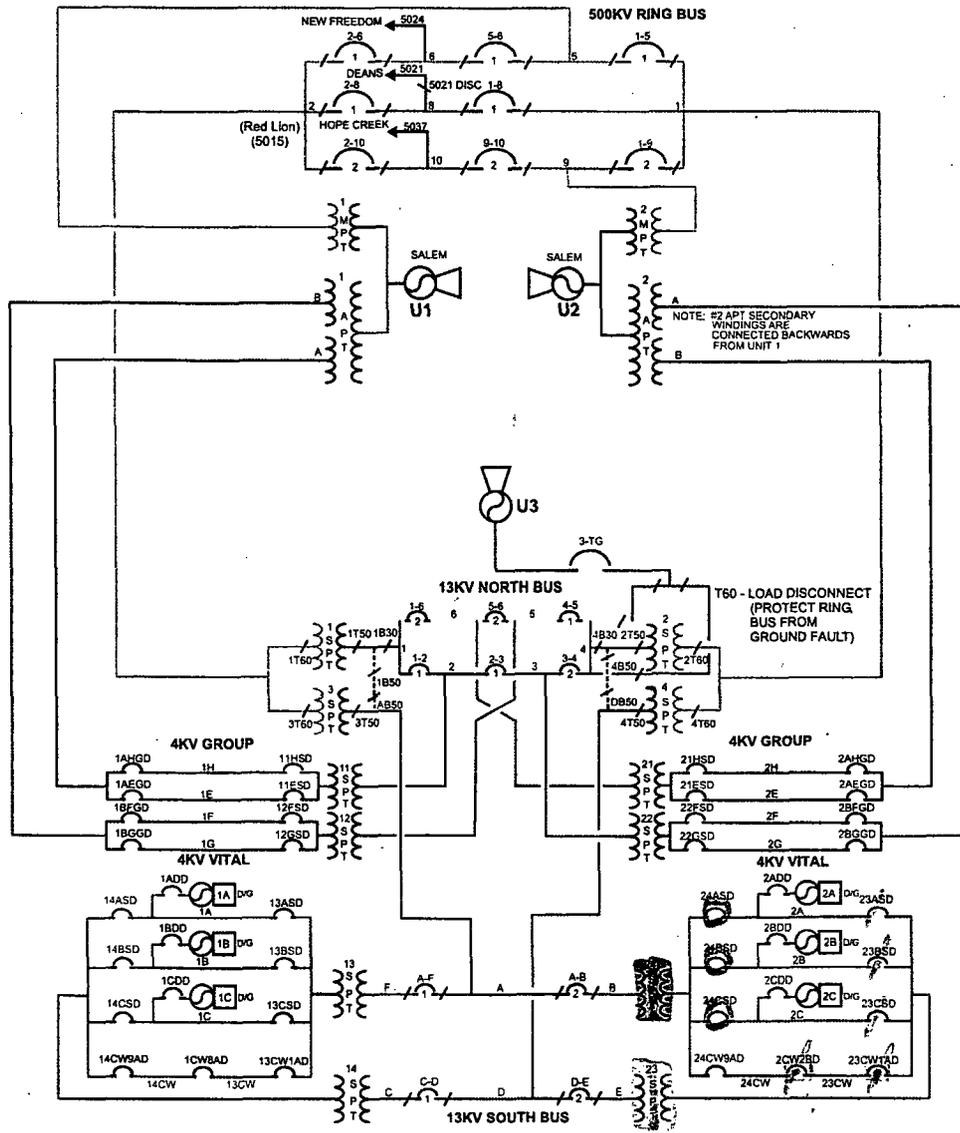
Glenn  
Sent by Blackberry

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 04:59 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Cook, William  
**Subject:** SLM - 24 SPT - PM deferral

Looks like it was not done due to Hurricane Sandy 10/29/12. Then was deferred and sked'd for 2R20 this spring.

Pat Finney  
Salem SRI  
856-935-3850



### OFFSITE POWER SYSTEM

Each unit generates electric power at 25 kV which is fed through an isolated phase bus to the main transformer bank where it is stepped up to 500 kV and delivered to the switching station. The 500-kV switching station design incorporates a breaker-and-a-half scheme for high reliability and is connected to three 500-kV transmission lines. Two transmission lines go north via separate rights-of-way to two Public Service Electric Gas (PSEG) major switching stations: New Freedom and Deans. The New Freedom Switching Station is solidly connected to the PSEG 230-kV bulk power system via three 500/230-kV autotransformers. Deans Switching Station is also connected to the PSEG 230-kV bulk power system via three autotransformers but, in addition, it is connected to the Pennsylvania/New Jersey/Maryland 500-kV interconnected system. The third transmission line serves as a tie line to the adjacent Hope Creek 500-kV switchyard which is also integrated into the Pennsylvania/New Jersey/Maryland 500-kV interconnected system. All three 500-kV power lines are available for either or both units. Site transmission lines are routed as shown on Figure 8.2-1. A one-line diagram of the 500-kV switching station Electrical System is shown on Figure 8.2-2. There are no present plans to incorporate automatic load dispatching for the Salem units.

### 500 KV:

1. Divided into (7) bus sections
2. Unit 1 supplies bus section 5; Unit 2 supplies bus section 9
3. The eight SF<sub>6</sub> circuit breakers are labeled to show the two bus sections they connect (e.g., 2-6)
4. The Hope Creek line links Salem to the Red Lion line, which crosses the river into Delaware.

### 25 KV:

Main generator(s) rated at 1300 MVA at a 0.9 power factor with 75 psi H<sub>2</sub> pressure.

### 13 KV:

1. Normally supplied via the four 500/13 KV SPTs and/or Unit 3 Gas Turbine.
2. The North 13KV bus is normally fed from #1 and #2 SPTs.
3. The North 13KV bus has 6 breakers, with the two inside breakers (5-6, 2-3) normally open. Interlocks prevent closing all 6 simultaneously. This prevents paralleling 500KV sections 1 and 2 thru 1 and 2 SPTs and the North 13KV bus.
4. #1 SPT normally supplies 11 and 21 SPT, #2 SPT normally supplies 12 and 22 SPT.
5. The normal alignment of the South 13KV bus is #3 SPT to Section A (13 and 24 SPTs); #4 SPT to Section D (14 and 23 SPTs).

### WHY TRIP-A-UNIT SCHEME

Most limiting 500 kV fault: Loss of most critical transmission line. Unexpected operating conditions result.

Loss of Hope Creek-Red Lion OR Salem-Deans for an extended outage and then a subsequent loss of the other line requires a trip of one of the Salem units to maintain system stability.

### 4 KV:

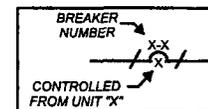
1. The 4KV Group buses are normally supplied from 1(2) APTs.
2. The CW buses are normally supplied from 13(23) and 14(24) SPT. (Bus tie breaker open)
3. The 4KV Vital Buses normally aligned as follows: 1(2)A and 1(2)B from 14(24) SPT 1(2)C from 13(23)SPT

### TECHNICAL SPECIFICATIONS

- Section 3.8.1.1 AC Sources - Operating
- Section 3.8.1.2 Sources-Shutdown
- Section 3.8.2.1 AC Distributions-Operating
- Section 3.8.2.2 AC Distributions-Shutdown

### KEY:

500 KV  
25 KV  
13 KV  
4KV GROUP  
4KV VITAL



### ELE-1:

500 KV 4 KV OVERVIEW

Rev. 1 Date: 4/30/01

FOR TRAINING USE ONLY

B7

**From:** Finney, Patrick  
**To:** Draxton, Mark; Barkley, Richard; Dumont, Louis; Reyes, Brandon; Matharu, Gurcharan; Stuchell, Sheldon; Khanna, Meena; Cook, William; Chung, Donald; Lund, Louise; Waig, Gerald  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents  
**Date:** Sunday, February 16, 2014 9:22:03 AM

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Sending to the rest of the group for your awareness. No action required by HQ as the Branch and residents will address. We're just glad we voiced our concerns on the reliability of Salem 3.

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From: Finney, Patrick  
Sent: Sunday, February 16, 2014 08:43  
To: Scott, Michael; Dentel, Glenn; Ziedonis, Adam; Lorson, Raymond; Benner, Eric  
Subject: RE: SLM - 24 SPT - Request for these conditions to be given to residents

Salem 3 B engine did not start last night. PSEG is developing a troubleshooting plan.

I would consider that this met condition 2 below in that Salem 3 was protected and there was a failure of the equipment on the protected list. I do not know if you were "contacted immediately" but I did not receive any calls. In fact, I had to inquire upon receiving an email that left out details regarding the B engine.

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From: Scott, Michael  
Sent: Saturday, February 15, 2014 22:50  
To: Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
Subject: FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.
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Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

From: Dentel, Glenn

Sent: Saturday, February 15, 2014 7:38 PM

To: Scott, Michael

Subject: Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn

Sent by Blackberry

From: Finney, Patrick

Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time

To: Dentel, Glenn; Cook, William

Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,

Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney

Salem SRI

~~856-935-3850~~

**From:** [Finney, Patrick](#)  
**To:** [Barkley, Richard](#); [Dentel, Glenn](#); [Draxton, Mark](#); [Dumont, Louis](#); [Hughey, John](#); [Ott, Carol](#); [Reyes, Brandon](#); [Ziedonis, Adam](#)  
**Subject:** SLM - 24 SPT - PMT and Retest  
**Date:** Saturday, February 15, 2014 4:07:38 PM  
**Attachments:** [Scan from SalemHope Creek HP5035.msg](#)

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These are the PMT and Retest docs for the 24 SPT as of this time. In my opinion, PSEG does not provide sufficient detail in designation of these tests.



PMT- SC13: PERFORM PMT

\*\*\*\*\*Long Text Object Identification\*\*\*\*\*  
Order 000060115437 Operation 0300 Long text  
\*\*\*\*\*

PMT- VERIFY ALL COMPONENTS ARE HOOKED UP TO TRANSFORMER.  
VERIFY PROPER INSERVICE OPERATION OF TRANSFORMER  
WHEN OPS PUTS IN SERVICE

RETURN ANY M&TE, RIGGING AND/OR POWER TOOLS WHICH WERE ISSUED  
FOR "MULTI-PERSON" USE TO THE APPLICABLE TOOL ROOM.

**From:** Finney, Patrick  
**To:** Finney, Patrick; Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Ott, Carol; Reyes, Brandon; Ziedonis, Adam; Matharu, Gurcharan; Stuchell, Sheldon; Benner, Eric; Khanna, Meena; Cook, William; Chung, Donald; Lund, Louise; EEEB Calendar Resource; Martinez-Navedo, Tania; Zimmerman, Jacob; Scott, Michael; Lorson, Raymond  
**Subject:** SLM - 24 SPT - PSEG good with 1800 call  
**Date:** Saturday, February 15, 2014 4:17:18 PM  
**Attachments:** RE Current revisions of NOED and cover letter.msg

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PSEG good with 1800 call.

1310

Barkley - Notes - ~~XXXXXXXXXX~~ Call  
(Call recorded by Hoo) with PSE6

24 SPT → 6 day duration  
extension - 9 days  
total.

Provide high confidence we can  
successfully complete the job on time

- Job estimate is 7.5 days.

- PSE6 history → Have you replaced one  
like it in the past?

- Have not replaced a transformer  
like this in the past. These are  
the original transformers - A  
subsequent modification.

Installed in 1994 / Manufactured in 1992.

- The 23 & 24 transformers are  
the same. A/B/C/D plus the  
E transformer is the spare.

- Unit 3 - 2 jet engines with one  
generator - 40 MWe.

- Available in a loss of AC power.

- Can power emergency buses plus more

- Abnormal & Emergency procedures

- Jet is tested and loaded monthly.

- Annually load testing the engine.

June 2013.

- 89 minutes.

- Can load in the 4 hour coping times B11

(2)

1,000,000 gallon oil supply available

- Jet was approved for supporting the LCD extension time for Hope Creek.

- 72 hours to 14 days

- Overall reliability →

A1 status - Had cold weather problems - Fuel did gel up - added heat trace and insulation since then.

Can remote start the engine, but had trouble with that function.

- Low oil pressure trip on the out of service engine - Can lube the out-of-service engine if an alarm comes in.

MR criteria - Need to fail both engines to not support its function

November 2012	>	Dual engine
January 2014	>	<u>failure.</u>

Remaining corrective actions are scheduled out to 2014

★ Will provide information on Unit 3 reliability - Need to include in the submittal as well as cross-referencing to Hope Creek.

**Barkley, Richard**

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**From:** Barkley, Richard  
**Sent:** Friday, February 21, 2014 2:03 PM  
**To:** Ziedonis, Adam; Finney, Patrick  
**Cc:** Dentel, Glenn  
**Subject:** Salem Electrical Design - NOED Followup

Since I had some time while onsite, I asked several folks in the Engineering Group about the electrical design at Salem since it is so unique and it was unclear why anyone would have installed 4 new transformers in 1994.

Seems the original design had 2 500 kV to 13.8 kV transformers, and 4 13.8 kV to 4 kV transformers. These were heavily loaded and during a plant event around 1990, they had problems with the circulating water pumps and the vital buses sharing the same transformers,

The fix was to install 2 more 500/13.8 kV transformers (#3 & #4) and break off the vital loads to 4 new 13.8/4 kV transformers buses (#13/14/23 & 24 (which failed on 2/13)). This was a major modification that may have been done in multiple parts.

As for the gas turbine, it does play a role at Salem to prevent an RCP seal LOCA, and it backs up Hope Creek when certain EDGs are out for maintenance. It did not need to be credited for station blackout. The gas turbine has had reliability issues, but there is no current plan to replace it. I had heard the unit will not meet EPA/NJ emissions standards in effect in 2015, but the system engineer indicated the most likely outcome of that change will be to restrict the gas turbine to emergency service only, and prohibiting its use as a peaking unit. Given the high price of diesel fuel, it is rarely used for that purpose anymore.

*Releasable.*

## **Barkley, Richard**

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**From:** Finney, Patrick  
**Sent:** Thursday, February 13, 2014 4:18 PM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick  
**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information  
**Attachments:** ACM13-013 24-rev 1 Station Power Transformer.doc; ML13071A487.pdf  
**Importance:** High

Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xfmr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xfmr along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xmfr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xfmr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xmfr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney  
Salem SRI

856-935-3850

Releasable.

**From:** [Finney, Patrick](#)  
**To:** [Finney, Patrick](#); [Barkley, Richard](#); [Dentel, Glenn](#); [Draxton, Mark](#); [Dumont, Louis](#); [Ott, Carol](#); [Reyes, Brandon](#); [Ziedonis, Adam](#); [Matharu, Gurcharan](#); [Stuchell, Sheldon](#); [Benner, Eric](#); [Khanna, Meena](#); [Cook, William](#); [Chung, Donald](#); [Lund, Louise](#); [EEEB Calendar Resource](#); [Martinez-Navedo, Tania](#); [Zimmerman, Jacob](#); [Scott, Michael](#); [Lorson, Raymond](#)  
**Subject:** SLM - 24 SPT - Revised PSEG docs for NOED - Review  
**Date:** Saturday, February 15, 2014 3:50:35 PM  
**Attachments:** [Current revisions of NOED and cover letter.msg](#)

---

Attached.

B12

**From:** Finney, Patrick  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Cook, William  
**Subject:** RE: SLM - 24 SPT - PM deferral  
**Date:** Saturday, February 15, 2014 5:10:54 PM  
**Attachments:** Re SLM - 24 SPT - PM deferral.msg

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A little cryptic so far as to what is done. 2 parts: 36 month PM and then electrical testing (guessing the doble stuff). Looks like the 36 month items got done but the electrical testing was deferred. Still looking.

**Benner, Eric**

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**From:** Finney, Patrick  
**Sent:** Sunday, February 16, 2014 7:48 AM  
**To:** Scott, Michael; Dentel, Glenn; Ziedonis, Adam; Lorson, Raymond; Benner, Eric  
**Cc:** Ziedonis, Adam  
**Subject:** RE: SLM - 24 SPT - Request for these conditions to be given to residents

Gents,

We received a PSEG email at 0110 this morning: "S3 loaded run on alpha engine for 15 minutes completed SAT."

I am wondering why they didn't run both engines as the words below do not seem to be specific to one engine. The residents will follow up to confirm/question.

---

**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 22:50  
**To:** Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.
3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

**From:** Dentel, Glenn  
**Sent:** Saturday, February 15, 2014 7:38 PM  
**To:** Scott, Michael  
**Subject:** Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney  
Salem SRI  
(856-935-3850)

## Benner, Eric

---

**From:** Barkley, Richard  
**Sent:** Tuesday, February 18, 2014 7:46 AM  
**To:** Benner, Eric  
**Subject:** RE: NOED status update

Got it – I have the majority of a draft NOED together. The new information will be put in the reply letter.

The transformer came back at 0315 today.

---

**From:** Benner, Eric  
**Sent:** Tuesday, February 18, 2014 6:03 AM  
**To:** Barkley, Richard  
**Subject:** Fw: NOED status update

FYI in case Glenn hadn't shared.

---

**From:** Lew, David  
**Sent:** Monday, February 17, 2014 11:21 PM  
**To:** Dentel, Glenn  
**Cc:** Lew, David; Scott, Michael; Benner, Eric  
**Subject:** Re: NOED status update

Sounds like they may be out of the NOED in 5 hours. I would like to get confirmation before I call Gary.

Sent via My Workspace for iOS

On Monday, February 17, 2014 at 10:26:31 PM, "Dentel, Glenn" <[Glenn.Dentel@nrc.gov](mailto:Glenn.Dentel@nrc.gov)> wrote:

Work on the transformer is going well and may be operable as early as tomorrow.

I am doing home remodeling so Rich Barkley will have the branch tomorrow.

Dave, do you need any further update for 0715?

Glenn  
Sent by Blackberry

----- Original Message -----

**From:** Ziedonis, Adam  
**Sent:** Monday, February 17, 2014 04:51 PM Eastern Standard Time  
**To:** Finney, Patrick; Dentel, Glenn  
**Subject:** NOED status update

Day shift U3 run complete SAT. NRC ID'd issue with air start compressor cycling and relief valve lifting during the run. Issue did not impact ability of U3 to start. I actually ID'd this yesterday (U3 successfully started twice since then, and compressor was not cycling just prior to today's run), and it was not put in CAP. I have confidence it will be entered today based on my discussions with Ops. Additional info - there is a local N2 bottle locally valved in and pressurized (and contained in procedure) as a back-up.

This could be the final U3 NOED run. Dayshift activity went well on 24 SPT - relay testing was completed SAT, and the scaffolding

was to be removed next. Tag release was scheduled for early in night shift. PSEG anticipates energizing and loading, while monitoring conditions and indications, between midnight and 0300.

---

From: d , Adam  
Sent: Saturday, February 15, 2014 10:59 PM  
To: Scott, Michael; Dentel, Glenn; Finney, Patrick  
Subject: RE: SLM - 24 SPT - Request for these conditions to be given to residents

Thanks Mike that's very helpful

From: Scott, Michael  
Sent: Saturday, February 15, 2014 10:50 PM  
To: Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
Subject: FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.
3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

From: Dentel, Glenn  
Sent: Saturday, February 15, 2014 7:38 PM  
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Subject: Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

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Sent by Blackberry

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Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney

Salem SRI

856-935-3850

**Benner, Eric**

---

**From:** Lorson, Raymond  
**Sent:** Friday, February 14, 2014 5:34 PM  
**To:** Cook, William; Scott, Michael; Benner, Eric; Dentel, Glenn  
**Subject:** RE: please read before today's NOED Call

FYI – I will be on the call at 6:30 pm and then need to disengage at 7 pm to join a security-related call and then will rejoin after the other call is over. Forwarding for information.

Ray

---

**From:** Cook, William  
**Sent:** Friday, February 14, 2014 5:23 PM  
**To:** Weerakkody, Sunil; Lorson, Raymond; Trapp, James  
**Cc:** Mathew, Roy; Stuchell, Sheldon; Chung, Donald; Circle, Jeff; Mathew, Roy; Zimmerman, Jacob; Lee, Samson; Gitter, Joseph  
**Subject:** RE: please read before today's NOED Call

Sunil,

Understand. We have communicated this to regional management.

Bill

---

**From:** Weerakkody, Sunil  
**Sent:** Friday, February 14, 2014 4:31 PM  
**To:** Cook, William; Lorson, Raymond; Trapp, James  
**Cc:** Mathew, Roy; Stuchell, Sheldon; Chung, Donald; Circle, Jeff; Mathew, Roy; Zimmerman, Jacob; Lee, Samson; Gitter, Joseph  
**Subject:** please read before today's NOED Call

Bill,

I understand that we (NRR\IDRA) is supporting you on a NOED call. Donald Chung will act on my behalf. I have been in communication with him and found out that the subject document BTP 8-8 have been transmitted to you. NOED is a risk-informed process. The subject BTP should not be used when dispositioning NOEDs. We have been in discussion with DE staff (Roy Mathew) and he agreed that BTP 8-8 is meant for risk-informed licensing actions. Based on these discussions, I request that the region does not consider BTP-8-8 as a guidance in dispositioning the subject NOED.

Thanks!

Sunil

---

**From:** Matharu, Gurcharan  
**Sent:** Friday, February 14, 2014 12:08 PM  
**To:** Hughey, John  
**Subject:** Staff Position for AOT Extension ML1022900120

John,  
Internal EEEB document.  
Please forward to the Region 1 staff.

Singh

## Benner, Eric

---

**From:** Lew, David  
**Sent:** Friday, February 14, 2014 3:57 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

If the guidance hasn't changed, it also states that "Generally, an NOED request will not be considered if at least 72 hours of completion time remain for the affected LCO at the time the problem is identified. The staff can often disposition an emergency amendment in less than 72 hours." That said, it sounds like you are on the right track to work this out with NRR.

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:45 PM  
**To:** Lew, David; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

The guidance states:

"Most NOED requests should be for a NOED CT [completion time] period of 72 hours or less...If a licensee is requesting a NOED for a period greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered."

---

**From:** Lew, David  
**Sent:** Friday, February 14, 2014 1:25 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks Eric. I understand that Mike will be the "Regional Administrator" designee. WRT to the 72 hours, I probably need to refresh my memory but I thought the 72 hours was based on the time until when the regulatory action was needed vice how long discretion was being given.

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:15 PM  
**To:** Scott, Michael; Lew, David  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

We had a preliminary call with the licensee and NRR. They will in all likelihood be requesting a NOED at 4:00 today for an additional 4-6 days to support transformer replacement.

We discussed this internally after the discussion with the licensee. The NOED guidance indicates that typically NOEDs are only for 72 hours or less, but NRR indicated that NRC has granted them for longer and would provide examples. The basis seemed to be that if we would grant the emergency TS anyway, we should just go ahead and grant the NOED instead. We have some concerns with this logic as it seems to be circumventing the licensing process. We are going to discuss further with NRR as to whether an emergency TS change is the more appropriate vehicle, with a NOED only being considered if the review of that change exceeded the LCO time.

Attached is a position paper NRR's electrical engineering branch developed on the topic. One of the issues mentioned both on the call and in the paper is the availability of additional power sources... previous NOED's have resulted in portable diesels being brought onsite, so this may be a big aspect on deciding whether to grant a NOED or emergency TS change.

---

**From:** Dean, Bill  
**Sent:** Thursday, February 13, 2014 10:54 PM  
**To:** Scott, Michael; Benner, Eric; Lew, David; Dentel, Glenn  
**Subject:** Re: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks for the heads up. We will need to assure licensee has a sense of the noed criteria to make sure they understand what they need to support such a request.

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Scott, Michael  
**Sent:** Thursday, February 13, 2014 09:49 PM  
**To:** Benner, Eric; Dean, Bill; Lew, David; Dentel, Glenn  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

We will obviously need to see how this plays out and will need to be ready for another possible Sunday morning NOED call. I'm sure Glenn will be alerting the likely participants tomorrow.

---

**From:** Benner, Eric  
**Sent:** Thursday, February 13, 2014 8:37 PM  
**To:** Dean, Bill; Lew, David  
**Cc:** Scott, Michael  
**Subject:** FW: SLM - 24 Station Power Xfmr gassing - Initial information

FYI

---

**From:** Dentel, Glenn  
**Sent:** Thursday, February 13, 2014 7:25 PM  
**To:** Scott, Michael; Benner, Eric  
**Subject:** Fw: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

Mike and Eric,

Salem is in a 72 hour for a transformer inop that bring offsite power to 4 kv safety buses. They are replacing but potentially may request an NOED. We will have more information tomorrow (details below).

Glenn  
Sent by Blackberry

---

**From:** Finney, Patrick  
**Sent:** Thursday, February 13, 2014 04:18 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick

**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information

Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xfmr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xfmrs along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xmfr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xfmr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xmfr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney  
Salem SRI

~~856-935-3850~~

## Draxton, Mark

---

**From:** Barkley, Richard  
**Sent:** Monday, February 17, 2014 5:53 PM  
**To:** Finney, Patrick  
**Cc:** Dentel, Glenn; Draxton, Mark  
**Subject:** RE: LR-N14-0048 Salem Unit 2 NOED for Single Source of Offsite Power

**Follow Up Flag:** Follow up  
**Due By:** Tuesday, February 18, 2014 1:00 PM  
**Flag Status:** Completed

I'll figure it out Tuesday. It may get both.

Been a long time since I did one of these, and the process has changed along the way.

---

**From:** Finney, Patrick  
**Sent:** Monday, February 17, 2014 2:50 PM  
**To:** Barkley, Richard  
**Cc:** Dentel, Glenn; Draxton, Mark  
**Subject:** RE: LR-N14-0048 Salem Unit 2 NOED for Single Source of Offsite Power

I think that is what I mean. Is it not the same? Or do we have to have both?

---

**From:** Barkley, Richard  
**Sent:** Monday, February 17, 2014 14:22  
**To:** Finney, Patrick  
**Cc:** Dentel, Glenn; Draxton, Mark  
**Subject:** RE: LR-N14-0048 Salem Unit 2 NOED for Single Source of Offsite Power

Most definitely - I also need a NOED number.

-----Original Message-----

**From:** Finney, Patrick  
**Sent:** Monday, February 17, 2014 1:59 PM  
**To:** Barkley, Richard  
**Cc:** Dentel, Glenn; Draxton, Mark  
**Subject:** RE: LR-N14-0048 Salem Unit 2 NOED for Single Source of Offsite Power

Gents,  
Will the branch get the EA # from OE for us? We need this for the inspection report.

---

The information contained in this e-mail, including any attachment(s), is intended solely for use by the named addressee(s). If you are not the intended recipient, or a person designated as responsible for delivering such messages to the intended recipient, you are not authorized to disclose, copy, distribute or retain this message, in whole or in part, without written authorization from PSEG. This e-mail may contain proprietary, confidential or privileged information. If you have received this message in error, please notify the sender immediately. This notice is included in all e-mail messages leaving PSEG. Thank you for your cooperation.

## Draxton, Mark

---

**From:** Dentel, Glenn  
**Sent:** Monday, February 17, 2014 10:29 PM  
**To:** Barkley, Richard; Draxton, Mark  
**Subject:** Fw: NOED status update

Sent by Blackberry

----- Original Message -----

**From:** Dentel, Glenn  
**Sent:** Monday, February 17, 2014 10:26 PM Eastern Standard Time  
**To:** Lew, David  
**Cc:** Scott, Michael; Benner, Eric  
**Subject:** Fw: NOED status update

Work on the transformer is going well and may be operable as early as tomorrow.

I am doing home remodeling so Rich Barkley will have the branch tomorrow.

Dave, do you need any further update for 0715?

Glenn  
Sent by Blackberry

----- Original Message -----

**From:** Ziedonis, Adam  
**Sent:** Monday, February 17, 2014 04:51 PM Eastern Standard Time  
**To:** Finney, Patrick; Dentel, Glenn  
**Subject:** NOED status update

Day shift U3 run complete SAT. NRC ID'd issue with air start compressor cycling and relief valve lifting during the run. Issue did not impact ability of U3 to start. I actually ID'd this yesterday (U3 successfully started twice since then, and compressor was not cycling just prior to today's run), and it was not put in CAP. I have confidence it will be entered today based on my discussions with Ops. Additional info - there is a local N2 bottle locally valved in and pressurized (and contained in procedure) as a back-up.

This could be the final U3 NOED run. Dayshift activity went well on 24 SPT - relay testing was completed SAT, and the scaffolding was to be removed next. Tag release was scheduled for early in night shift. PSEG anticipates energizing and loading, while monitoring conditions and indications, between midnight and 0300.

---

**From:** d , Adam  
**Sent:** Saturday, February 15, 2014 10:59 PM  
**To:** Scott, Michael; Dentel, Glenn; Finney, Patrick  
**Subject:** RE: SLM - 24 SPT - Request for these conditions to be given to residents

B33

Thanks Mike that's very helpful

From: Scott, Michael  
Sent: Saturday, February 15, 2014 10:50 PM  
To: Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
Subject: FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

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Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

From: Dentel, Glenn  
Sent: Saturday, February 15, 2014 7:38 PM  
To: Scott, Michael  
Subject: Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,

## Fannon, Matthew

---

**From:** Lew, David  
**Sent:** Sunday, February 16, 2014 8:02 AM  
**To:** Scott, Michael  
**Cc:** Lew, David  
**Subject:** RE: NOED for Salem Unit 2

In fact, it was quite thorough. I was just concerned with your level of effort after spending so much time and late into Saturday. I guess I missed the mark in communicating. Btw, I thought you did a great job filling in the blanks and sharing the other views during the internal Region I discussion. I think we came out I'm the right place but at the same time I thought Glenn, Bill and Ray deserves a lot of credit for being our conscious and highlighting this issue. I intend on sending them a thank you email when I get into the office in an hour.

Sent via My Workspace for iOS

On Sunday, February 16, 2014 at 7:45:31 AM, "Scott, Michael" <[Michael.Scott@nrc.gov](mailto:Michael.Scott@nrc.gov)> wrote:

Sorry I missed the mark Dave. I really don't want my shortcomings to result in anyone going in to work on a Sunday. Here is the Readers Digest version - hope that helps.

Mike

Friday, PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

TS 3.8.1.1 Action a for Salem Unit 2 requires restoration of the 24 SPT to Operable status within 72 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, 2014.

The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening. In response to staff technical questions, the licensee revised its draft written NOED submittal and resubmitted the draft request for staff review. At 1800 Saturday, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410, the guidance applicable to NOEDs. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about a requested NOED duration twice the 72 hours noted in the guidance, and also regarding NRR's decision not to expect an LAR from the licensee. These concerns were discussed by management. Based on the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, the regulatory precedent for allowing NOEDs greater than 72 hours, and the fact that conditions would be imposed on the NOED to help address some of the staff concerns raised, the Region I Acting Regional Administrator, with concurrence of the Director of DORL, authorized the Acting Region I DRP Director to grant the NOED with specified conditions. The licensee was informed of this at 2110 Saturday.

## Fannon, Matthew

---

**From:** Khanna, Meena  
**Sent:** Sunday, February 16, 2014 6:53 AM  
**To:** Scott, Michael  
**Subject:** Re: NOED for Salem Unit 2

Thanks, Mike. We will follow up on the two NRR action items. Enjoy the rest of your weekend!

---

**From:** Scott, Michael  
**To:** Lew, David  
**Cc:** Dean, Bill; Lorson, Raymond; Trapp, James; Benner, Eric; Khanna, Meena; Lund, Louise; Evans, Michele; Hughey, John; Dentel, Glenn; Uhle, Jennifer; Stuchell, Sheldon; Nieh, Ho; Finney, Patrick; Ziedonis, Adam; Cook, William; Matharu, Gurcharan; Zimmerman, Jacob; Draxton, Mark; Chung, Donald; Waig, Gerald  
**Sent:** Sat Feb 15 22:23:00 2014  
**Subject:** NOED for Salem Unit 2

Yesterday (Friday), PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

TS 3.8.1.1 Action a for Salem Unit 2 requires restoration of the 24 SPT to Operable status within 72 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, 2014.

The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening, including addressing all the staff evaluation criteria under Inspection Manual Chapter (IMC) 0410 Section 0410-07. The staff held a call with the licensee that evening at the licensee's request, during which the licensee verbally made its NOED request. Region I, as well as NRR Tech Spec and Electrical branches, and the NRR Divisions of Risk Assessment and Policy and Rulemaking, participated in the call. At that time, the staff raised numerous questions, most of which the licensee addressed at the time but a few of which the licensee took back to consider and respond in a subsequent call. These questions included some regarding the reliability of the "jet engines" installed on site as a compensatory measure for the SPT 24 outage, the interface with Hope Creek (to which the jet engines can also supply power), contingencies for failure of other equipment during the proposed NOED period, and re-evaluation of the list of protected equipment.

The licensee revised its draft written NOED submittal in response to the Friday call, and resubmitted the draft request for staff review. At 1800 this evening, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about various aspects of a requested NOED duration twice the 72 hours noted in the guidance, including the increased likelihood of the licensee requesting further time beyond the 6 days proposed for the NOED and the apparent inconsistency of the duration requested with the guidance quoted. Further, cognizant NRR management had determined that the nature of this request made submittal of an LAR not necessary, appropriate, or good use of staff resources. This position could be viewed as inconsistent with the guidance quoted, and was a concern to some staff members.

330  
You, as Acting Administrator for Region I, provided an opportunity for staff with views and concerns on this matter to share them with you. You also heard my recommendation that the NOED be approved, considering the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, that there is regulatory precedent for allowing NOEDs greater than 72 hours, and that conditions would be imposed on the NOED to help address some of the staff concerns raised. Specifically, the licensee would be expected to notify the staff immediately if protected equipment failed or the schedule margin for the planned work was used up, such that there would no longer be a reasonable expectation that the work could be completed within the NOED window. While the staff would of course consider any licensee-proposed path forward in such a situation, the staff's likely decision in such event would be to terminate the NOED and require the licensee to comply with its technical specifications.

At approximately 2015 this evening, you authorized me to grant the NOED as requested, subject to the conditions noted. I provided the verbal authorization, as well as the conditions, to the licensee at approximately 2110 this evening. There are two action items for the staff emerging from this; both pertain to NRR.

1. NRR will strongly consider revising IMC 0410 to more clearly reflect the practice of granting NOEDs for durations beyond 72 hours based on the merits of each specific case, and the possibility that such cases would not call for the licensee to submit a LAR.
2. NRR will provide the licensee references to cases in which other licensees have taken action to ensure loss of similar transformer applications can be addressed within a 72-hour LCO, this avoiding need for a NOED. The staff would view a repeat NOED request for the same issue as very problematic.

I would like to offer my thanks to the many staff members who devoted extensive time over the weekend to bring this matter to conclusion. All interactions on this matter were conducted in a manner fully consistent with open collaborative work environment, and with appropriate first focus on safety. I don't dare attempt to name all the involved personnel here for fear I leave someone out. But I am sure their managers will recognize them for a job very well done. The licensee expressed their appreciation for the staff's professionalism on this matter.

Mike Scott  
Acting Director  
Region I Division of Reactor Projects

## **Fannon, Matthew**

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**From:** Ziedonis, Adam  
**Sent:** Saturday, February 15, 2014 10:30 PM  
**To:** Scott, Michael  
**Subject:** RE: NOED for Salem Unit 2

Got it, thanks Mike

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**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 10:23 PM  
**To:** Lew, David  
**Cc:** Dean, Bill; Lorson, Raymond; Trapp, James; Benner, Eric; Khanna, Meena; Lund, Louise; Evans, Michele; Hughey, John; Dentel, Glenn; Uhle, Jennifer; Stuchell, Sheldon; Nieh, Ho; Finney, Patrick; Ziedonis, Adam; Cook, William; Matharu, Gurcharan; Zimmerman, Jacob; Draxton, Mark; Chung, Donald; Waig, Gerald  
**Subject:** NOED for Salem Unit 2

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13  
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Mike Scott  
Acting Director  
Region I Division of Reactor Projects

## Fannon, Matthew

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**From:** Lew, David  
**Sent:** Friday, February 14, 2014 3:57 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

If the guidance hasn't changed, it also states that "Generally, an NOED request will not be considered if at least 72 hours of completion time remain for the affected LCO at the time the problem is identified. The staff can often disposition an emergency amendment in less than 72 hours." That said, it sounds like you are on the right track to work this out with NRR.

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:45 PM  
**To:** Lew, David; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

The guidance states:

"Most NOED requests should be for a NOED CT [completion time] period of 72 hours or less...If a licensee is requesting a NOED for a period greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered."

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**From:** Lew, David  
**Sent:** Friday, February 14, 2014 1:25 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks Eric. I understand that Mike will be the "Regional Administrator" designee. WRT to the 72 hours, I probably need to refresh my memory but I thought the 72 hours was based on the time until when the regulatory action was needed vice how long discretion was being given.

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**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:15 PM  
**To:** Scott, Michael; Lew, David  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

We had a preliminary call with the licensee and NRR. They will in all likelihood be requesting a NOED at 4:00 today for an additional 4-6 days to support transformer replacement.

We discussed this internally after the discussion with the licensee. The NOED guidance indicates that typically NOEDs are only for 72 hours or less, but NRR indicated that NRC has granted them for longer and would provide examples. The basis seemed to be that if we would grant the emergency TS anyway, we should just go ahead and grant the NOED instead. We have some concerns with this logic as it seems to be circumventing the licensing process. We are going to discuss further with NRR as to whether an emergency TS change is the more appropriate vehicle, with a NOED only being considered if the review of that change exceeded the LCO time.

Attached is a position paper NRR's electrical engineering branch developed on the topic. One of the issues mentioned both on the call and in the paper is the availability of additional power sources...previous NOED's have resulted in portable diesels being brought onsite, so this may be a big aspect on deciding whether to grant a NOED or emergency TS change.

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**From:** Dean, Bill  
**Sent:** Thursday, February 13, 2014 10:54 PM  
**To:** Scott, Michael; Benner, Eric; Lew, David; Dentel, Glenn  
**Subject:** Re: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks for the heads up. We will need to assure licensee has a sense of the noed criteria to make sure they understand what they need to support such a request.

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Scott, Michael  
**Sent:** Thursday, February 13, 2014 09:49 PM  
**To:** Benner, Eric; Dean, Bill; Lew, David; Dentel, Glenn  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

We will obviously need to see how this plays out and will need to be ready for another possible Sunday morning NOED call. I'm sure Glenn will be alerting the likely participants tomorrow.

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**From:** Benner, Eric  
**Sent:** Thursday, February 13, 2014 8:37 PM  
**To:** Dean, Bill; Lew, David  
**Cc:** Scott, Michael  
**Subject:** FW: SLM - 24 Station Power Xfmr gassing - Initial information

FYI

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**From:** Dentel, Glenn  
**Sent:** Thursday, February 13, 2014 7:25 PM  
**To:** Scott, Michael; Benner, Eric  
**Subject:** Fw: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

Mike and Eric,

Salem is in a 72 hour for a transformer inop that bring offsite power to 4 kv safety buses. They are replacing but potentially may request an NOED. We will have more information tomorrow (details below).

Glenn  
Sent by Blackberry

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**From:** Finney, Patrick  
**Sent:** Thursday, February 13, 2014 04:18 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick

**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information

Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xfmr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xfms along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xfmr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xfmr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xfmr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney  
Salem SRI

856-935-3850

**Fannon, Matthew**

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**From:** Khan, Cheryl  
**Sent:** Friday, February 14, 2014 1:12 PM  
**To:** Benner, Eric  
**Cc:** Scott, Michael  
**Subject:** RE: R1 RUG Pre-Brief

Another option, if you both can't attend, is I can brief you separately next week. The majority of the topics are DRS topics (i.e., DRS staff have to do most of the RUG prep). Lew and Trapp are available at 2pm this afternoon.

Cheryl

-----Original Appointment-----

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 12:48 PM  
**To:** Khan, Cheryl  
**Cc:** Scott, Michael  
**Subject:** Tentative: R1 RUG Pre-Brief  
**When:** Friday, February 14, 2014 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** Sequoia Conference Room

We have a Salem NOED internal call at that same time. Mike, do you want to divide and conquer or reschedule RUG pre-brief?

**Fannon, Matthew**

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**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 10:24 AM  
**To:** Schroeder, Daniel; Burritt, Arthur; Dentel, Glenn; Bower, Fred; McKinley, Raymond; Mangan, Kevin  
**Cc:** Scott, Michael; Barkley, Richard  
**Subject:** IMC 0410

I have copies of the pocket version of IMC 0410 for NOED's on the table in my office if you'd like one.

Glenn, Rich snagged one for the upcoming Salem discussions.

## Fannon, Matthew

---

**From:** Benner, Eric  
**Sent:** Thursday, February 13, 2014 8:37 PM  
**To:** Dean, Bill; Lew, David  
**Cc:** Scott, Michael  
**Subject:** FW: SLM - 24 Station Power Xfmr gassing - Initial information  
**Attachments:** ACM13-013 24-rev 1 Station Power Transformer.doc; ML13071A487.pdf

FYI

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**From:** Dentel, Glenn  
**Sent:** Thursday, February 13, 2014 7:25 PM  
**To:** Scott, Michael; Benner, Eric  
**Subject:** Fw: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

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Glenn  
Sent by Blackberry

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**From:** Finney, Patrick  
**Sent:** Thursday, February 13, 2014 04:18 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick  
**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information

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NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney

Salem SRI

856-935-3850

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 3:52 PM  
**To:** Ziedonis, Adam  
**Subject:** RE: SLM - Xfmr replace  
**Attachments:** RE: SLM - Xfmr replace

I've asked Chambliss whether they need to keep it energized (hts), vendor guidance, etc.

## Fannon, Matthew

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**From:** Ziedonis, Adam  
**Sent:** Saturday, February 15, 2014 3:07 PM  
**To:** Finney, Patrick  
**Subject:** RE: SLM - Xfmr replace

They did say they can't do Doble testing during precipitation. If I ask the questions I would like to discuss them with you first. I have seen many spare transformers sit outside without being energized. I want to make sure I understand what PPL was not doing that they were supposed to be doing, so I can be better informed. Did PPL not keep the transformer dry during standby conditions, or during the maintenance to swap in the spare? Is it correct to say that the basic nature of the question is: has PSEG incorporated any vendor or industry guidance for protecting the primary windings from moisture

---

**From:** Draxton, Mark  
**Sent:** Saturday, February 15, 2014 11:31 AM  
**To:** Finney, Patrick  
**Cc:** Ziedonis, Adam; Barkley, Richard  
**Subject:** Re: SLM - Xfmr replace

Good questions. I do recall them saying they will do Doble testing once in place.

On Saturday, February 15, 2014 at 11:08:57 AM, "Finney, Patrick" <[Patrick.Finney@nrc.gov](mailto:Patrick.Finney@nrc.gov)> wrote:

Adam (CC to the SPE and PE only),

We'll need to ask a few questions regarding the xfmr with the rain we are getting right now. Given the finding below, we should ask:

- a) how long was the new SPT de-en (w/out heaters)
- b) what does vendor guidance and EPRI guidance say about this
- c) review Doble testing to ensure positive results

---

**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 21:44  
**To:** Ziedonis, Adam; Finney, Patrick  
**Subject:** SLM - Xfmr replace

**Significance:** Mar 31, 2008 Identified By: NRC Item Type: NCV NonCited Violation Inadequate Application of Work Instructions Resulted in Unavailable and Inoperable Engineering Safeguards Electrical Bus

A self-revealing, Green NCV was identified for failure to accomplish work in accordance with the appropriate instructions as required by 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, PPL did not complete the required actions that would properly protect the Unit 1 transformer 1X210 windings from moisture intrusion when heat was not applied to the transformer as specified by the work instructions and original equipment vendor manual. This resulted in high initial Doble test results, an investigation into cause, a drying out period, and additional Doble testing which caused an approximate 24-hour delay in the restoration of the safety-related 1A 4 KV ES bus. This electrical bus provides power to common safety-related loads which increased the online risk for Unit 2, the operating unit during the Unit 1 refueling outage. PPL applied concentrated heat and energized the primary windings to remove moisture from the windings prior to returning the transformer to service. This finding is greater than minor because it adversely impacted the equipment performance attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability, reliability and the capability of systems that respond to initiating events to prevent undesirable consequences. This finding was considered to have very low safety significance (Green), using phase one of the significance determination process for Unit 2. A contributing cause of this finding is related to the Human Performance cross cutting area, work control planning attribute H.3.(a). Specifically, PPL did not appropriately plan and coordinate the work activities by incorporating job site conditions, including environmental conditions.

We should keep this mind.

**Fannon, Matthew**

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**From:** Dentel, Glenn  
**Sent:** Saturday, February 15, 2014 5:15 PM  
**To:** Finney, Patrick  
**Subject:** Re: SLM - 24 SPT - PM deferral

Any deferrals on 23?  
Sent by Blackberry

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 05:10 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Cook, William  
**Subject:** RE: SLM - 24 SPT - PM deferral

A little cryptic so far as to what is done. 2 parts: 36 month PM and then electrical testing (guessing the doble stuff). Looks like the 36 month items got done but the electrical testing was deferred. Still looking.

**Fannon, Matthew**

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**From:** Dentel, Glenn  
**Sent:** Saturday, February 15, 2014 5:07 PM  
**To:** Finney, Patrick  
**Subject:** Re: SLM - 24 SPT - PM deferral

Do you know what this PM is for?

Glenn  
Sent by Blackberry

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 04:59 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Cook, William  
**Subject:** SLM - 24 SPT - PM deferral

Looks like it was not done due to Hurricane Sandy 10/29/12. Then was deferred and sked'd for 2R20 this spring.

Pat Finney  
Salem SRI

~~856-935-3850~~

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 5:30 PM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - PM deferral

Confusing to me whether they deferred PM on old or new xfmr. I've requested ENG assistance to determine PM history for new 24 and i/s 23 SPTs.

Pat Finney  
Salem SRI

~~856-935-3850~~

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 5:16 PM  
**To:** Dentel, Glenn  
**Cc:** Ziedonis, Adam  
**Subject:** RE: SLM - 24 SPT - PM deferral  
**Attachments:** Re: SLM - 24 SPT - PM deferral

Not sure. Will have to look (disclaimer – not very good at SAP yet)

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 4:08 PM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - PMT and Retest  
**Attachments:** Scan from Salem/Hope Creek HP5035

These are the PMT and Retest docs for the 24 SPT as of this time. In my opinion, PSEG does not provide sufficient detail in designation of these tests.

**Fannon, Matthew**

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**From:** Matharu, Gurcharan  
**Sent:** Friday, February 14, 2014 2:24 PM  
**To:** Finney, Patrick; Hughey, John; Benner, Eric; Stuchell, Sheldon; Khanna, Meena; Cook, William; Chung, Donald; Lund, Louise; Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** Example of a similar NOED

<http://pbadupws.nrc.gov/docs/ML0810/ML081010530.pdf>

*public*

Singh

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 9:47 PM  
**To:** Cook, William; Lorson, Raymond; Scott, Michael; Benner, Eric; Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Evening Update

The residents have walked down the two xmfrs in the switchyard and observed part of the heavy lift brief. At 2000 hours, PSEG contractors (HAKE) were preparing the lifting rig for the old xfmr. The old xfmr is determed. The high and low side cables were left in their vertical positions; PSEG decided to not disturb them if possible. One positive is that the xfmr is not within reasonable impact of any other electrical SSC. The new xfmr was on the trailer.

The residents will be following up on how long the xfmr can sit without the heaters energized as the oil temperature gauge appeared to be 0 deg C.

CC to DRS, DRP, DDRP for awareness.

## Draxton, Mark

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**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 8:04 PM  
**To:** Khanna, Meena; Cook, William; Finney, Patrick; Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Questions

Here are the questions from me:

- 1) What are the results of the oil samples and dole testing today on the spare xfmr?
- 2) Request says 6 days but cover letter says 7 days.
- 3) Where is the response in question #3 to the "action taken to avoid the need for a NOED"?
- 4) When was the last time the Abnormal and recovery procedures were validated?
- 5) What is PSEG plan if gas samples on 23 and 4 SPTs are unsat?
- 6) WRT comp measures, what constitutes "during the replacement"?
- 7) Switchyard recovery diesel generator in the comp measure list but not in the list of 12c and the PRA document.
- 8) Are Operations-based comp measure to be implemented prior to taking shift, via read and sign?
- 9) Why aren't activities in swyrd prohibited during "phase A", with 24 SPT removed from service?
- 10) What actions or procedures will Operations use with ESOC updates?
- 11) Why aren't missing ice barriers, potential for Delaware ice melting or ice release considered in the weather aspect?
- 12) Fire comp measures listed in PRA document appear vague (swyd, service building). Additionally, PORC discussion suggested one roving firewatch for all areas, suggested using security officer at swyd, and suggested using maintenance technicians in swyd as ways to take credit for the watches. What are the specifics of the firewatches for these areas and what are the expectations for both the staffing and conduct of each watch?

B 55

**Draxton, Mark**

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**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 6:36 PM  
**To:** Draxton, Mark; Finney, Patrick; Barkley, Richard; Dentel, Glenn; Dumont, Louis; Ott, Carol; Reyes, Brandon; Ziedonis, Adam; Matharu, Gurcharan; Stuchell, Sheldon; Benner, Eric; Khanna, Meena; Cook, William; Chung, Donald; Lund, Louise  
**Subject:** FW: Re: 24 SPT NOED documents for the phone call  
**Attachments:** letterhead rev 2 .doc; NOED 24 SPT enclosure rev 2 .doc; S2-NOED-006 Rev 0 5.docx  
**Importance:** High

Files for review and the 1930 call.

---

**From:** Cachaza, Thomas J. [Thomas.Cachaza@pseg.com]  
**Sent:** Friday, February 14, 2014 18:34  
**To:** Finney, Patrick; Ziedonis, Adam  
**Subject:** FW: Re: 24 SPT NOED documents for the phone call

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**From:** Cachaza, Thomas J.  
**Sent:** Friday, February 14, 2014 6:28 PM  
**To:** Finney, Patrick W; Ziedonis, Adam  
**Subject:** Re: 24 SPT NOED documents for the phone call  
**Importance:** High

Pat please find attached the Draft letter, the NOED enclosure and the Risk Assessment. Dates that are showing as XXX will be filled in after the phone call

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The information contained in this e-mail, including any attachment(s), is intended solely for use by the named addressee(s). If you are not the intended recipient, or a person designated as responsible for delivering such messages to the intended recipient, you are not authorized to disclose, copy, distribute or retain this message, in whole or in part, without written authorization from PSEG. This e-mail may contain proprietary, confidential or privileged information. If you have received this message in error, please notify the sender immediately. This notice is included in all e-mail messages leaving PSEG. Thank you for your cooperation.

**Fannon, Matthew**

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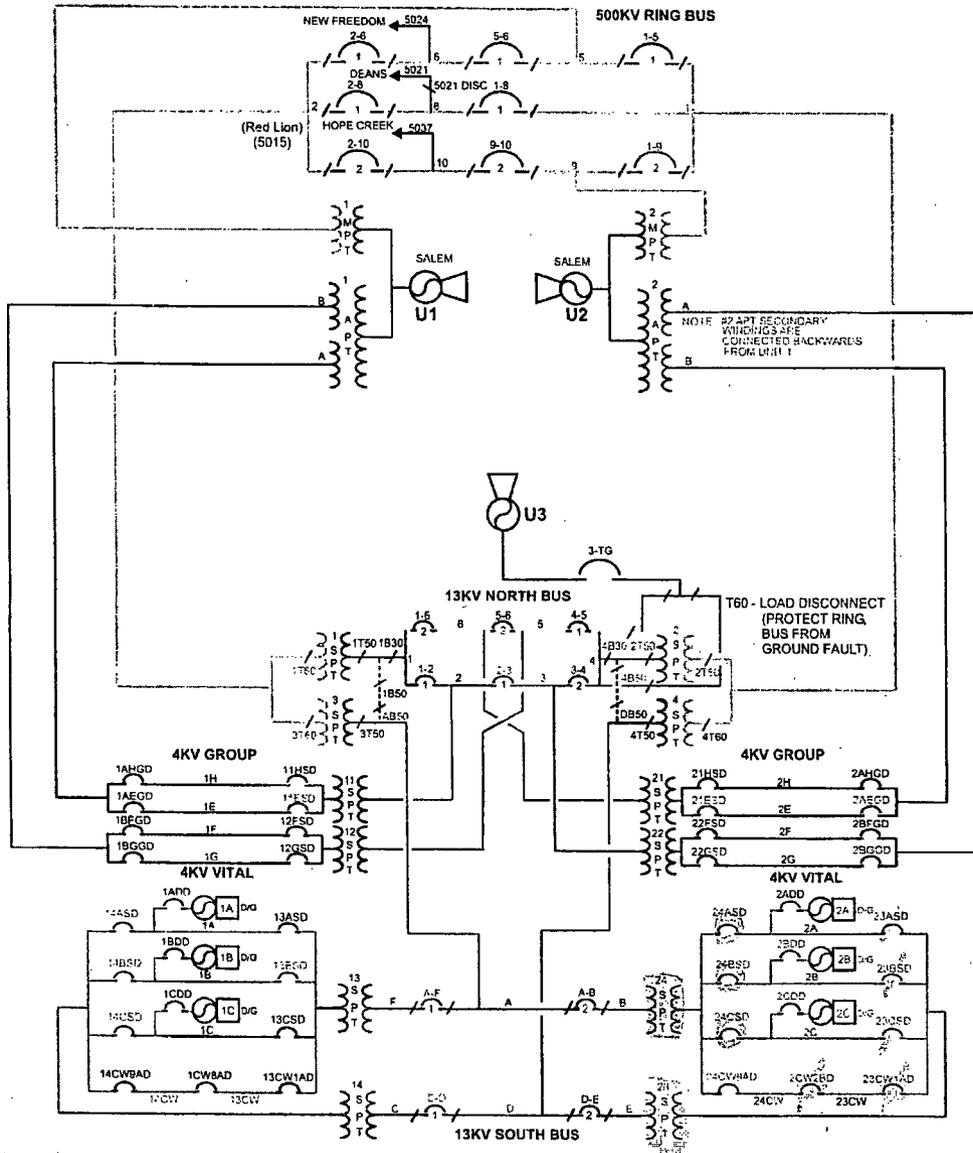
**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 9:17 AM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Basic schematic for reference  
**Attachments:** Scan from Salem/Hope Creek HP5035

**Fannon, Matthew**

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**From:** R1 Scan  
**Sent:** Friday, February 14, 2014 9:09 AM  
**To:** Finney, Patrick  
**Subject:** Scan from Salem/Hope Creek HP5035  
**Attachments:** Scan File.pdf

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.



### OFFSITE POWER SYSTEM

Each unit generates electric power at 25 kV which is fed through an isolated phase bus to the main transformer bank where it is stepped up to 500 kV and delivered to the switching station. The 500-kV switching station design incorporates a breaker-and-a-half scheme for high reliability and is connected to three 500-kV transmission lines. Two transmission lines go north via separate rights-of-way to two Public Service Electric Gas (PSEG) major switching stations: New Freedom and Deans. The New Freedom Switching Station is solidly connected to the PSEG 230-kV bulk power system via three 500/230-kV autotransformers. Deans Switching Station is also connected to the PSEG 230-kV bulk power system via three autotransformers but, in addition, it is connected to the Pennsylvania/New Jersey/Maryland 500-kV interconnected system. The third transmission line serves as a tie line to the adjacent Hope Creek 500-kV switchyard which is also integrated into the Pennsylvania/New Jersey/Maryland 500-kV interconnected system. All three 500-kV power lines are available for either or both units. Site transmission lines are routed as shown on Figure 8.2-1. A one-line diagram of the 500-kV switching station Electrical System is shown on Figure 8.2-2. There are no present plans to incorporate automatic load dispatching for the Salem units.

### 500 KV:

1. Divided into (7) bus sections
2. Unit 1 supplies bus section 5; Unit 2 supplies bus section 9
3. The eight SF<sub>6</sub> circuit breakers are labeled to show the two bus sections they connect (e.g., 2-6)
4. The Hope Creek line links Salem to the Red Lion line, which crosses the river into Delaware.

### 25 KV:

Main generator(s) rated at 1300 MVA at a 0.9 power factor with 75 psi H<sub>2</sub> pressure.

### 13 KV:

1. Normally supplied via the four 500/13 KV SPTs and/or Unit 3 Gas Turbine.
2. The North 13KV bus is normally fed from #1 and #2 SPTs.
3. The North 13KV bus has 6 breakers, with the two inside breakers (5-6, 2-3) normally open. Interlocks prevent closing all 6 simultaneously. This prevents paralleling 500KV sections 1 and 2 thru 1 and 2 SPTs and the North 13KV bus.
4. #1 SPT normally supplies 11 and 21 SPT, #2 SPT normally supplies 12 and 22 SPT.
5. The normal alignment of the South 13KV bus is #3 SPT to Section A (13 and 24 SPTs); #4 SPT to Section D (14 and 23 SPTs).

### WHY TRIP-A-UNIT SCHEME

Most limiting 500 kV fault: Loss of most critical transmission line. Unexpected operating conditions result. Loss of Hope Creek-Red Lion OR Salem-Deans for an extended outage and then a subsequent loss of the other line requires a trip of one of the Salem units to maintain system stability.

### 4 KV:

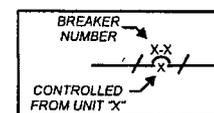
1. The 4KV Group buses are normally supplied from 1(2) APTs.
2. The CW buses are normally supplied from 13(23) and 14(24) SPT. (Bus tie breaker open)
3. The 4KV Vital Buses normally aligned as follows:  
1(2)A and 1(2)B from 14(24) SPT  
1(2)C from 13(23) SPT

### TECHNICAL SPECIFICATIONS

Section 3.8.1.1 AC Sources - Operating  
Section 3.8.1.2 Sources-Shutdown  
Section 3.8.2.1 AC Distributions-Operating  
Section 3.8.2.2 AC Distributions-Shutdown

500 KV  
25 KV  
13 KV  
4KV GROUP  
4KV VITAL

### KEY:



### ELE-1:

500 KV 4 KV OVERVIEW  
Rev. 1 Date: 4/30/01  
FOR TRAINING USE ONLY

**Fanion, Matthew**

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:45 PM  
**To:** Lew, David; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

The guidance states:

“Most NOED requests should be for a NOED CT [completion time] period of 72 hours or less...If a licensee is requesting a NOED for a period greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered.”

---

**From:** Lew, David  
**Sent:** Friday, February 14, 2014 1:25 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks Eric. I understand that Mike will be the “Regional Administrator” designee. WRT to the 72 hours, I probably need to refresh my memory but I thought the 72 hours was based on the time until when the regulatory action was needed vice how long discretion was being given.

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:15 PM  
**To:** Scott, Michael; Lew, David  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

We had a preliminary call with the licensee and NRR. They will in all likelihood be requesting a NOED at 4:00 today for an additional 4-6 days to support transformer replacement.

We discussed this internally after the discussion with the licensee. The NOED guidance indicates that typically NOEDs are only for 72 hours or less, but NRR indicated that NRC has granted them for longer and would provide examples. The basis seemed to be that if we would grant the emergency TS anyway, we should just go ahead and grant the NOED instead. We have some concerns with this logic as it seems to be circumventing the licensing process. We are going to discuss further with NRR as to whether an emergency TS change is the more appropriate vehicle, with a NOED only being considered if the review of that change exceeded the LCO time.

Attached is a position paper NRR's electrical engineering branch developed on the topic. One of the issues mentioned both on the call and in the paper is the availability of additional power sources...previous NOED's have resulted in portable diesels being brought onsite, so this may be a big aspect on deciding whether to grant a NOED or emergency TS change.

---

**From:** Dean, Bill  
**Sent:** Thursday, February 13, 2014 10:54 PM  
**To:** Scott, Michael; Benner, Eric; Lew, David; Dentel, Glenn  
**Subject:** Re: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks for the heads up. We will need to assure licensee has a sense of the noed criteria to make sure they understand what they need to support such a request.

Bill Dean

Regional Administrator

Region I, USNRC

Sent from NRC BlackBerry

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**From:** Scott, Michael

**Sent:** Thursday, February 13, 2014 09:49 PM

**To:** Benner, Eric; Dean, Bill; Lew, David; Dentel, Glenn

**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

We will obviously need to see how this plays out and will need to be ready for another possible Sunday morning NOED call. I'm sure Glenn will be alerting the likely participants tomorrow.

---

**From:** Benner, Eric

**Sent:** Thursday, February 13, 2014 8:37 PM

**To:** Dean, Bill; Lew, David

**Cc:** Scott, Michael

**Subject:** FW: SLM - 24 Station Power Xfmr gassing - Initial information

FYI

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**From:** Dentel, Glenn

**Sent:** Thursday, February 13, 2014 7:25 PM

**To:** Scott, Michael; Benner, Eric

**Subject:** Fw: SLM - 24 Station Power Xfmr gassing - Initial information

**Importance:** High

Mike and Eric,

Salem is in a 72 hour for a transformer inop that bring offsite power to 4 kv safety buses. They are replacing but potentially may request an NOED. We will have more information tomorrow (details below).

Glenn

Sent by Blackberry

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**From:** Finney, Patrick

**Sent:** Thursday, February 13, 2014 04:18 PM Eastern Standard Time

**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam

**Cc:** Finney, Patrick

**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information

Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene

exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xmfr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xmfrs along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xmfr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xmfr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xmfr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney

Salem SRI

856-935-3850

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 9:22 PM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Insight, thought process behind challenge (just discussion)

PB3,

Just for your info and any feedback on this before I engage with the Ops Director:

The EDG supply breaker and the 23 SPT supply breaker to the 2C 4kV bus were protected.

If you take the approach that the 2C 4kV bus itself was not protected (as PSEG seemed to suggest on phone call), the procedural guidance says that work on a bus with any associated breaker protected is to be considered as work near protected equipment and requires a form and associated RMAs.

If you take the approach that the 2C 4kV bus itself was protected, then this would constitute work on protected equipment and would require a form and associated RMAs.

A discussion with the PSEG risk staff seemed to suggest the 2C 4kV bus was protected. If you compare baseline CDF and the list of risk-important SSCs to that CDF with the 24 SPT unavailable and the list of risk-important SSCs, one sees the 2C bus rise to become an SSC that makes CDF Red if it subsequently becomes unavailable. It is this information that suggests that the SSC (2C 4kV bus) should be protected.

---

**From:** Draxton, Mark  
**Sent:** Friday, February 14, 2014 21:13  
**To:** Finney, Patrick; Dentel, Glenn  
**Cc:** Ziedonis, Adam; Reyes, Brandon; Barkley, Richard  
**Subject:** RE: SLM - 24 SPT - Insight

Good challenge.

-----Original Message-----

**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 8:24 PM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Insight

Today, PSEG executed 2C 4kV UV functional testing while the 2C bus was protected. It is Adam and my assessment that this was done without following their procedures for work on protected equipment. This gives me some concern regarding PSEG's ability to discern what work should or should not occur and what RMAs are needed during said work.

**Fannon, Matthew**

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**From:** Ziedonis, Adam  
**Sent:** Monday, February 17, 2014 4:52 PM  
**To:** Finney, Patrick; Dentel, Glenn  
**Subject:** NOED status update

Day shift U3 run complete SAT. NRC ID'd issue with air start compressor cycling and relief valve lifting during the run. Issue did not impact ability of U3 to start. I actually ID'd this yesterday (U3 successfully started twice since then, and compressor was not cycling just prior to today's run), and it was not put in CAP. I have confidence it will be entered today based on my discussions with Ops. Additional info - there is a local N2 bottle locally valved in and pressurized (and contained in procedure) as a back-up.

This could be the final U3 NOED run. Dayshift activity went well on 24 SPT - relay testing was completed SAT, and the scaffolding was to be removed next. Tag release was scheduled for early in night shift. PSEG anticipates energizing and loading, while monitoring conditions and indications, between midnight and 0300.

---

From: d , Adam  
Sent: Saturday, February 15, 2014 10:59 PM  
To: Scott, Michael; Dentel, Glenn; Finney, Patrick  
Subject: RE: SLM - 24 SPT - Request for these conditions to be given to residents

Thanks Mike that's very helpful

From: Scott, Michael  
Sent: Saturday, February 15, 2014 10:50 PM  
To: Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
Subject: FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.
3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

From: Dentel, Glenn  
Sent: Saturday, February 15, 2014 7:38 PM  
To: Scott, Michael  
Subject: Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney  
Salem SRI

856-935-3850

**Fannon, Matthew**

---

**From:** Finney, Patrick  
**Sent:** Sunday, February 16, 2014 8:44 AM  
**To:** Scott, Michael; Dentel, Glenn; Ziedonis, Adam; Lorson, Raymond; Benner, Eric  
**Subject:** RE: SLM - 24 SPT - Request for these conditions to be given to residents

Salem 3 B engine did not start last night. PSEG is developing a troubleshooting plan.

I would consider that this met condition 2 below in that Salem 3 was protected and there was a failure of the equipment on the protected list. I do not know if you were "contacted immediately" but I did not receive any calls. In fact, I had to inquire upon receiving an email that left out details regarding the B engine.

---

**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 22:50  
**To:** Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.
3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

**From:** Dentel, Glenn  
**Sent:** Saturday, February 15, 2014 7:38 PM  
**To:** Scott, Michael  
**Subject:** Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney  
Salem SRI  
856-935-3850

**Fannon, Matthew**

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**From:** Finney, Patrick  
**Sent:** Sunday, February 16, 2014 7:48 AM  
**To:** Scott, Michael; Dentel, Glenn; Ziedonis, Adam; Lorson, Raymond; Benner, Eric  
**Cc:** Ziedonis, Adam  
**Subject:** RE: SLM - 24 SPT - Request for these conditions to be given to residents

Gents,

We received a PSEG email at 0110 this morning: "S3 loaded run on alpha engine for 15 minutes completed SAT."

I am wondering why they didn't run both engines as the words below do not seem to be specific to one engine. The residents will follow up to confirm/question.

---

**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 22:50  
**To:** Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
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3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

**From:** Dentel, Glenn  
**Sent:** Saturday, February 15, 2014 7:38 PM  
**To:** Scott, Michael  
**Subject:** Fw: SLM - 24 SPT - Request for these conditions to be given to residents

042

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney  
Salem SRI  
[856-935-3850]

## Fannon, Matthew

---

**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 10:23 PM  
**To:** Lew, David  
**Cc:** Dean, Bill; Lorson, Raymond; Trapp, James; Benner, Eric; Khanna, Meena; Lund, Louise; Evans, Michele; Hughey, John; Dentel, Glenn; Uhle, Jennifer; Stuchell, Sheldon; Nieh, Ho; Finney, Patrick; Ziedonis, Adam; Cook, William; Matharu, Gurcharan; Zimmerman, Jacob; Draxton, Mark; Chung, Donald; Waig, Gerald  
**Subject:** NOED for Salem Unit 2

Yesterday (Friday), PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

TS 3.8.1.1 Action a for Salem Unit 2 requires restoration of the 24 SPT to Operable status within 72 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, 2014.

The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening, including addressing all the staff evaluation criteria under Inspection Manual Chapter (IMC) 0410 Section 0410-07. The staff held a call with the licensee that evening at the licensee's request, during which the licensee verbally made its NOED request. Region I, as well as NRR Tech Spec and Electrical branches, and the NRR Divisions of Risk Assessment and Policy and Rulemaking, participated in the call. At that time, the staff raised numerous questions, most of which the licensee addressed at the time but a few of which the licensee took back to consider and respond in a subsequent call. These questions included some regarding the reliability of the "jet engines" installed on site as a compensatory measure for the SPT 24 outage, the interface with Hope Creek (to which the jet engines can also supply power), contingencies for failure of other equipment during the proposed NOED period, and re-evaluation of the list of protected equipment.

The licensee revised its draft written NOED submittal in response to the Friday call, and resubmitted the draft request for staff review. At 1800 this evening, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about various aspects of a requested NOED duration twice the 72 hours noted in the guidance, including the increased likelihood of the licensee requesting further time beyond the 6 days proposed for the NOED and the apparent inconsistency of the duration requested with the guidance quoted. Further, cognizant NRR management had determined that the nature of this request made submittal of an LAR not necessary, appropriate, or good use of staff resources. This position could be viewed as inconsistent with the guidance quoted, and was a concern to some staff members.

You, as Acting Administrator for Region I, provided an opportunity for staff with views and concerns on this matter to share them with you. You also heard my recommendation that the NOED be approved, considering the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, that there is regulatory precedent for allowing NOEDs greater than 72 hours, and that conditions would be imposed on the NOED to help address some of the staff concerns raised. Specifically, the licensee would be expected to notify the staff immediately if protected equipment failed or the schedule margin for the

planned work was used up, such that there would no longer be a reasonable expectation that the work could be completed within the NOED window. While the staff would of course consider any licensee-proposed path forward in such a situation, the staff's likely decision in such event would be to terminate the NOED and require the licensee to comply with its technical specifications.

At approximately 2015 this evening, you authorized me to grant the NOED as requested, subject to the conditions noted. I provided the verbal authorization, as well as the conditions, to the licensee at approximately 2110 this evening. There are two action items for the staff emerging from this; both pertain to NRR.

1. NRR will strongly consider revising IMC 0410 to more clearly reflect the practice of granting NOEDs for durations beyond 72 hours based on the merits of each specific case, and the possibility that such cases would not call for the licensee to submit a LAR.
2. NRR will provide the licensee references to cases in which other licensees have taken action to ensure loss of similar transformer applications can be addressed within a 72-hour LCO, this avoiding need for a NOED. The staff would view a repeat NOED request for the same issue as very problematic.

I would like to offer my thanks to the many staff members who devoted extensive time over the weekend to bring this matter to conclusion. All interactions on this matter were conducted in a manner fully consistent with open collaborative work environment, and with appropriate first focus on safety. I don't dare attempt to name all the involved personnel here for fear I leave someone out. But I am sure their managers will recognize them for a job very well done. The licensee expressed their appreciation for the staff's professionalism on this matter.

Mike Scott  
Acting Director  
Region I Division of Reactor Projects

### EDO DAILY NOTE

On February 14, PSEG requested enforcement discretion from compliance with Salem Unit 2 Technical Specification (TS) 3.8.1, "AC Sources - Operating." Specifically, the Station Power Transformer (SPT) 24 was declared inoperable on February 13 as a result of elevated transformer combustible gas levels. PSEG replaced the existing 24 SPT with an identical spare. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, to allow sufficient time for the replacement of this large outside transformer. The NRC staff approved PSEG's Notice of Enforcement Discretion (NOED) based on the compensatory actions put in place as well as the risk evaluation of this evolution. PSEG subsequently completed the 24 SPT replacement and exited the NOED at 0315 on February 18, which was approximately 36 hours into the NOED period.

BC14

## Fannon, Matthew

---

**From:** Dentel, Glenn  
**Sent:** Thursday, February 13, 2014 7:25 PM  
**To:** Scott, Michael; Benner, Eric  
**Subject:** Fw: SLM - 24 Station Power Xfmr gassing - Initial information  
**Attachments:** ACM13-013 24-rev 1 Station Power Transformer.doc; ML13071A487.pdf  
  
**Importance:** High

Mike and Eric,

Salem is in a 72 hour for a transformer inop that bring offsite power to 4 kv safety buses. They are replacing but potentially may request an NOED. We will have more information tomorrow (details below).

Glenn  
Sent by Blackberry

---

**From:** Finney, Patrick  
**Sent:** Thursday, February 13, 2014 04:18 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick  
**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information

Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xfmr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xfmr along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xfmr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xfmr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xfmr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney

Salem SRI

~~856-935-3850~~

S213 - 24 STA PWR XFR

IP: 1R1B Unit: 0 / 1 / 1 Topic: 24 SPT REPLACEMENT Date: 2/14- / 14  
 BIP: (5)  BI: (8.5)  BID: ( )

.....  
References:

- R1) CR 20639881, 20376250
- R2) W/O 60115437, 30186512, 60077972
- R3)
- R4)
- R5)
- R6)
- R7)
- R8)
- R9)
- R10)
- R11)
- R12)
- R13)
- R14)
- R15)

.....  
Planning:

- P1) PSEQ FOLLOWING VENDOR & EPRI GUIDANCE? eg. <24 HRS LOSS HTY COILS
- P2) WHAT PARTS SCAVENGED FROM OLD XFMR. EVALD BY ENG?  
IMPLICATION OF PARTS MISSING
- P3) VERIFY NEW SPT WAS GETTING PARTS MENTIONED
- P4)
- P5)
- P6)
- P7) PI&R:
- P8) PI&R:

.....  
Questions:

- Q1)
- Q2)
- Q3)
- Q4)
- Q5)
- Q6)

Observations:

01)

02)

03)

04)

05)

06)

07)

08)

09)

W/O 60115437

MO of 2/15/14 1558, RISK EVAL WORKSHEET order 0001/0005 NOT complete  
 ROSTD RISK EVAL WORKSHEET (GARRETT, BODE), NO POB

DPS complete @ this time

OP 0004 INST GRNDJ "GRDS INSTALLED" (PRINTS OUT AS 0002)  
 0006 INST SCAFFOLD "SCAFFOLD INSTALLED"  
 0510 0003 PLAN CM ORDER REVISION "S213-2XD16072/INCREASE  
 SERVERON SAMPLE FREQ. ON 23 SPT UNTIL 24 SPT RTS.  
 PER DEVIN PRICE OCL NUM 2/15/14"

W/O 30186512 (60115437/0002)

OPS complete @ this time (2/15/14 1650)

OPS 0001/0003 NO CONTING REQD  
 0001/0005 NUPM Deferral  
 0001/0006 PM CMTE RW

CONFUSING whether deferred PM was on old or new SPT

MURAN  
MARRCOS  
2/15/14

ROST PMs FOR 23 AND SPARE  
 ROST W/Os\* FOR PMs, CMs OF 23 & SPARE



**PSEG**

*Nuclear LLC*

**Notification Overview**

Run Date: 01/09/2014

Run Time: 12:56:14

Page: 2 of 2

Notification 20635835

This notification has been written so as to be rolled to a work order used as a book mark for work scheduled to start in Work Week 433 (8/11/14).

01/09/2014 09:17:43 MICHAEL GOLDBERG (NU00P)

Note: DCP 80110936

---

4	Not Applicable	TSCO
SEAN T CRAMPTON		
REQ	Review Required	TSOS
REQ	MAT Type Classification Required	TSOS

*End of report*

3Y CAL DIFF PROT  
3Y CAL OL PROT  
3Y CAL GRND PROT (BKUP) RLYS  
3Y CAL 13/4 CW-VB REH MT  
3Y CAL 13/4 CW-VB BKUP MT  
3Y CAL GRND PROT (REQ) RLYS

6M PM

3Y CAL UV RELAY

54M INSP PT

✓ 3016 4084 OL PROT 2011  
✓ 3016 4231 3Y PM 2011

RATIOS (EXCITATION, DOUBLE PF, HOT COLLARS)  
3 DRUMS SAMPLED FROM TAP Δ

6M PM IN 3/20/08  
3Y PM IN 2011 } Δ IN PM FREQ?, RVW EVAL

6M PM MNTNLE PLAN (MP) 15868  
30123182 6M PM 2008  
30164231 3Y PM 2011  
30207451 3Y PM 2014 (APRIL)

54M INSP PT □ when created, how diff? MP 137793  
- DOUBLE TEST TURNS RATIO  
- SC.OP-5013-0014  
- INSP ECT 23 STP BUS PTS (STAPS) (INFO ITEM 87-42)  
w/o ~~3021~~ 3021 8229 SKED 4/10/14 (1ST TIME)

SPARE XFMR SC13 - 13/4 XFMR SPARE

ADAM,

Sun 2/16  
~10 am

LARRY WAGNER

would appreciate a call

@ 2172

emergent failure  
of eq in protected area

THANKS

ground  
buste

ZB battery ground - 20639237 [2/16 - ~7 hrs

↳ - had "-"

↳ 06:45 & 13:24

[Co. hrs]

↳ 08:42 -

~~21041~~

RA returned to normal at 10:24

## Finney, Patrick

---

**From:** Ziedonis, Adam  
**Sent:** Tuesday, February 18, 2014 11:37 AM  
**To:** Finney, Patrick  
**Subject:** SLM U2 2C vital bus UV testing on Fri 2/14

Pat,

Here is a summary of my questions to the U2 CRS on Friday 2/14.

- At approximately 08:00, I asked the U2 CRS if a decision had been made to defer the 2C vital bus UV testing. U2 CRS said U2 CRS hadn't heard a decision on that.
  - I then asked when during the day the testing was scheduled. U2 CRS said first thing this morning, and U2 CRS expected I&C to be coming up to the control room shortly.
  - I then asked when the 25% grace period would expire per TS, and if the station had considered using the grace given that the 2C vital bus was protected (at this point I was under the assumption that it was protected, and was not given info to the contrary). U2 CRS looked up the grace, and stated that it would expire 2/24.
  - I asked the U2 CRS to discuss with the SM if it would be more of a risk to do the test 2/14 versus at the end of the 24 SPT window. The U2 CRS acknowledged it was a good question, and U2 CRS would get back to me. I clarified that I was requesting a response before testing commenced. U2 CRS understood and said that would not be a problem.
- U2 CRS called me at least about an hour later (I don't recall exact time, but it was before testing had commenced), and said that the decision was made to continue with the testing.
  - I asked if the station had considered that a NOED was being requested, and that when NOEDs are requested, several NRC staff and managers ask very detailed question about compensatory measures, and stated that it would be helpful for PSEG to have a clear basis for why it was less of a risk to do the test 2/14 versus defer to after the 24 SPT window. The U2 CRS stated that PSEG would need to get management involved to defer the test. I said I understood that it was PSEG's decision. The U2 CRS said the U2 CRS would discuss with management and get back to me.
  - Immediately after hanging up the phone, I heard the U2 CRS page the Ops Support Manager over the PA.
- Later in the morning (don't recall the exact time), I got a call back from the U2 CRS that after discussion with management, the decision was made to continue with the test. I was told one of the factors was it was a 'C' bus week, and next week (this current week) would be a "no bus" week. I was told another factor was that it is a frequently performed test (monthly), and PSEG believed there was low risk of an adverse consequence on the C vital bus (I am paraphrasing).
  - I thanked the U2 CRS for the information, and restated that I understood it was PSEG's decision to test or defer.
  - John Garecht, Station Duty Manager for the week, reiterated the info above in main bullet #3 to me in the OCC later on 2/14 (conveys there was apparently considerable management discussion).

I don't doubt that management and shift discussed and understood the specific details of the UV testing, and made a reasonable decision (i.e., I&C techs doing a frequently performed monthly surveillance that Shift is aware of). However, that is not an excuse to blow off the process. And you have clear examples where the process was not followed.

Let me know if you need any more info/clarification,

B48



**Draxton, Mark**

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**From:** Draxton, Mark  
**Sent:** Friday, February 14, 2014 8:45 PM  
**To:** Ziedonis, Adam  
**Subject:** RE: NRR Call With PSEG

I hope so.

---

**From:** Ziedonis, Adam  
**Sent:** Friday, February 14, 2014 8:44 PM  
**To:** Draxton, Mark  
**Subject:** RE: NRR Call With PSEG

Internal PSEG discussions today seemed to indicate they thought they could ask for more time later if they needed it. I think they are getting the message now.

---

**From:** Draxton, Mark  
**Sent:** Friday, February 14, 2014 8:43 PM  
**To:** Ziedonis, Adam  
**Subject:** RE: NRR Call With PSEG

Thanks. I was surprised that they were quiet.

---

**From:** Ziedonis, Adam  
**Sent:** Friday, February 14, 2014 8:43 PM  
**To:** Draxton, Mark  
**Subject:** RE: NRR Call With PSEG

I like your question regarding contingency plans the best so far. Definitely stumped them the most, and probably the best question too.

---

**From:** Draxton, Mark  
**Sent:** Friday, February 14, 2014 5:52 PM  
**To:** Hughey, John; Finney, Patrick; Barkley, Richard; Dentel, Glenn; Dumont, Louis; Ott, Carol; Reyes, Brandon; Ziedonis, Adam; Matharu, Gurcharan; Stuchell, Sheldon; Benner, Eric; Khanna, Meena; Cook, William; Chung, Donald; Lund, Louise  
**Subject:** RE: NRR Call With PSEG  
**Importance:** High

All,

Pat just received a call from PSEG. They are asking that the call be pushed back one hour to 1930. They have committed to send out documents by 1830, giving us one hour to review before the call.

John, did you want to notify the HOO on the call time now starting at 1930?

If you should have any questions, please don't hesitate to email or call me.

Thanks.

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xmfr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xmfr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xmfr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney  
Salem SRI  
856-935-3850

**Trapp, James**

---

**From:** Lorson, Raymond  
**Sent:** Sunday, February 16, 2014 11:39 AM  
**To:** Cook, William  
**Cc:** Trapp, James; Rogge, John  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents

Bill:

Pls see the attached email below from Pat Finney. Mike Scott has arranged for a call today at High Noon (i.e. 12 pm) to discuss whether the failure of the Unit 3 B Train would affect any of our decisions relative to the granting of the NOED. It would affect the assumption related to the compensatory action but would not affect CDF as the train was assumed to be failed in their assessment as I recall.

If you are free you are welcome to join the call, if you have something better to do like taking the family out to lunch or re-arranging your sock drawer there is no need to call in. I plan to call in at 12 but wanted to make you aware in case you have time.

Thanks - btw Bill gets the Ironman Award for the weekend as he spent an enormous amount of time reviewing the licensee's submittal and participating on calls.

Ray

-----Original Message-----

**From:** Finney, Patrick  
**Sent:** Sunday, February 16, 2014 8:44 AM  
**To:** Scott, Michael; Dentel, Glenn; Ziedonis, Adam; Lorson, Raymond; Benner, Eric  
**Subject:** RE: SLM - 24 SPT - Request for these conditions to be given to residents

Salem 3 B engine did not start last night. PSEG is developing a troubleshooting plan.

I would consider that this met condition 2 below in that Salem 3 was protected and there was a failure of the equipment on the protected list. I do not know if you were "contacted immediately" but I did not receive any calls. In fact, I had to inquire upon receiving an email that left out details regarding the B engine.

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**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 22:50  
**To:** Dentel, Glenn; Finney, Patrick; Ziedonis, Adam  
**Subject:** FW: SLM - 24 SPT - Request for these conditions to be given to residents

Conditions communicated to the licensee tonight:

1. Prior to beginning of the NOED period, PSEG shall start and run Unit 3 to verify it is functioning correctly, and shall verify the functionality of the recently installed heat tracing for Unit 3.
2. In the event of failure of any equipment on the protected list submitted by the licensee in its NOED submittal or within the protected rooms described in that submittal, or of any equipment that would affect the

PRA, or of any equipment that would take the plant outside the normal maintenance envelope, or of any equipment that would affect defense in depth, the licensee shall notify the NRC staff immediately.

3. If the licensee finds at any time that its schedule contingency has been used up, such that it appears the corrective maintenance will not be completed within the NOED period, the licensee shall notify the NRC staff immediately.

Please feel free to share these with the licensee to ensure we are on the same page and that their final submittal will be consistent with our understanding of the conditions provided to them.

Thanks!

Mike

From: Dentel, Glenn  
Sent: Saturday, February 15, 2014 7:38 PM  
To: Scott, Michael  
Subject: Fw: SLM - 24 SPT - Request for these conditions to be given to residents

Mike, please provide the wording to Pat.

Glenn  
Sent by Blackberry

From: Finney, Patrick  
Sent: Saturday, February 15, 2014 06:38 PM Eastern Standard Time  
To: Dentel, Glenn; Cook, William  
Subject: SLM - 24 SPT - Request for these conditions to be given to residents

Glenn,  
Request that Region provide these conditions that Mike Scott is giving PSEG be provided to us so that we can hold them to and inspect them.

Pat Finney  
Salem SRI

856-935-3850

## Cook, William

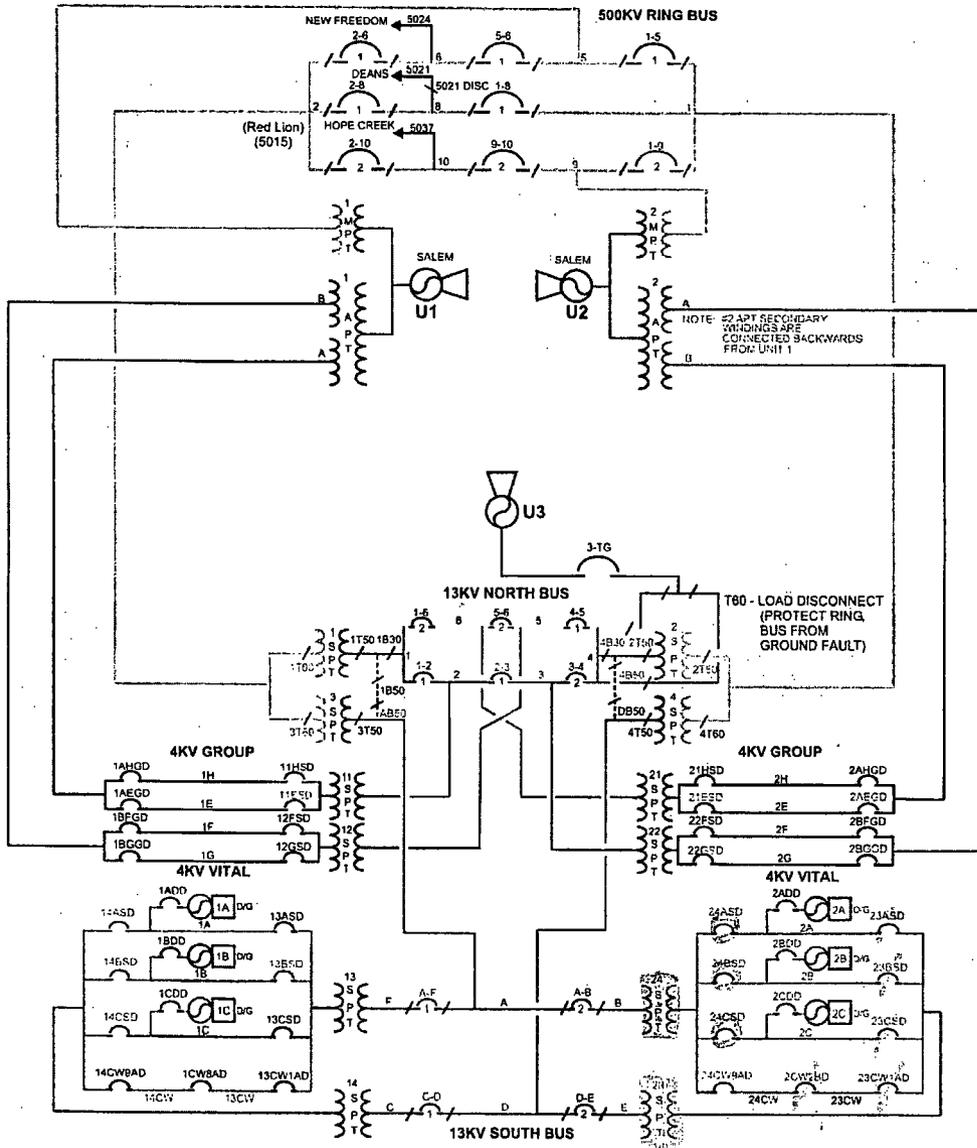
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**From:** Barkley, Richard  
**Sent:** Friday, February 14, 2014 10:11 AM  
**To:** Cook, William  
**Subject:** FW: SLM - 24 SPT - Basic schematic for reference  
**Attachments:** Scan from Salem/Hope Creek HP5035

Here is a simplified drawing you needed.

I'll see what we have in Draxton's office.

**From:** Finney, Patrick  
**Sent:** Friday, February 14, 2014 9:17 AM  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Subject:** SLM - 24 SPT - Basic schematic for reference



**OFFSITE POWER SYSTEM**

Each unit generates electric power at 25 kV which is fed through an isolated phase bus to the main transformer bank where it is stepped up to 500 kV and delivered to the switching station. The 500-kV switching station design incorporates a breaker-and-a-half schema for high reliability and is connected to three 500-kV transmission lines. Two transmission lines go north via separate rights-of-way to two Public Service Electric Gas (PSEG) major switching stations: New Freedom and Deans. The New Freedom Switching Station is solidly connected to the PSEG 230-kV bulk power system via three 500/230-kV autotransformers. Deans Switching Station is also connected to the PSEG 230-kV bulk power system via three autotransformers but, in addition, it is connected to the Pennsylvania/New Jersey/Maryland 500-kV interconnected system. All three 500-kV power lines are available for either or both units. Site transmission lines are routed as shown on Figure 8.2-1. A one-line diagram of the 500-kV switching station Electrical System is shown on Figure 8.2-2. There are no present plans to incorporate automatic load dispatching for the Salem units.

**500 KV:**

1. Divided into (7) bus sections
2. Unit 1 supplies bus section 5; Unit 2 supplies bus section 9
3. The eight SF<sub>6</sub> circuit breakers are labeled to show the two bus sections they connect (e.g., 2-5)
4. The Hope Creek line links Salem to the Red Lion line, which crosses the river into Delaware.

**25 KV:**

Main generator(s) rated at 1300 MVA at a 0.9 power factor with 75 psi H<sub>2</sub> pressure.

**13 KV:**

1. Normally supplied via the four 500/13 kV SPTs and/or Unit 3 Gas Turbine.
2. The North 13KV bus is normally fed from #1 and #2 SPTs.
3. The North 13KV bus has 6 breakers, with the two inside breakers (5-6, 2-3) normally open. Interlocks prevent closing all 6 simultaneously. This prevents paralleling 500KV sections 1 and 2 thru 1 and 2 SPTs and the North 13KV bus.
4. #1 SPT normally supplies 11 and 21 SPT. #2 SPT normally supplies 12 and 22 SPT.
5. The normal alignment of the South 13KV bus is #3 SPT to Section A (13 and 24 SPTs); #4 SPT to Section D (14 and 23 SPTs).

**WHY TRIP-A-UNIT SCHEME**

Most limiting 500 kV fault: Loss of most critical transmission line. Unexpected operating conditions result. Loss of Hope Creek-Red Lion OR Salem-Deans for an extended outage and then a subsequent loss of the other line requires a trip of one of the Salem units to maintain system stability.

**4 KV:**

1. The 4KV Group buses are normally supplied from 1(2) APTs.
2. The CW buses are normally supplied from 13(23) and 14(24) SPT. (Bus tie breaker open)
3. The 4KV Vital Buses normally aligned as follows:  
1(2)A and 1(2)B from 14(24) SPT  
1(2)C from 13(23) SPT

**TECHNICAL SPECIFICATIONS**

- Section 3.8.1.1 AC Sources - Operating
- Section 3.8.1.2 Sources-Shutdown
- Section 3.8.2.1 AC Distributions-Operating
- Section 3.8.2.2 AC Distributions-Shutdown

**KEY:**

500 KV  
25 KV  
13 KV  
4KV GROUP  
4KV VITAL

**ELE-1:**  
**500 KV 4 KV OVERVIEW**  
Rev. 1 Date: 4/30/01  
**FOR TRAINING USE ONLY**

**Heater, Keith**

---

**From:** Dentel, Glenn  
**Sent:** Thursday, February 27, 2014 9:06 AM  
**To:** Lorson, Raymond; Cook, William  
**Subject:** NOED Lessons Learned

Meena has agreed to include Bill in their lessons learned process which includes a meeting starting next week. She also will be e-mailing the draft action plan shortly to Bill.

*Glenn Dentel*

Branch Chief responsible for oversight of Seabrook, Salem and Hope Creek  
610-337-5233 (w)

## Heater, Keith

---

**From:** Lorson, Raymond  
**Sent:** Saturday, February 15, 2014 5:40 PM  
**To:** Finney, Patrick  
**Subject:** RE: SLM - 24 SPT - Question

do they have the risk informed tech specs?

---

**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 4:39 PM  
**To:** Lorson, Raymond  
**Subject:** SLM - 24 SPT - Question

Ray,  
What am I not understanding about the NOED that isn't covered by 50.65a4 and TSs? Just looking to learn and I didn't want to hold up the call.

Pat Finney  
Salem SRI  
(856-935-3850)

**Heater, Keith**

---

**From:** Lorson, Raymond  
**Sent:** Saturday, February 15, 2014 5:44 PM  
**To:** Finney, Patrick  
**Subject:** RE: SLM - 24 SPT - Question

Pat - pls call me when you get a chance and i will discuss your question. I am in the slow mode today and not sure I understand it?

Thanks

Ray

---

**From:** Finney, Patrick  
**Sent:** Saturday, February 15, 2014 5:41 PM  
**To:** Lorson, Raymond  
**Subject:** RE: SLM - 24 SPT - Question

They have the Surv Reqt Freq Ctrl pgm

## Cook, William

---

**From:** Lew, David  
**Sent:** Friday, February 14, 2014 3:57 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

If the guidance hasn't changed, it also states that "Generally, an NOED request will not be considered if at least 72 hours of completion time remain for the affected LCO at the time the problem is identified. The staff can often disposition an emergency amendment in less than 72 hours." That said, it sounds like you are on the right track to work this out with NRR.

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:45 PM  
**To:** Lew, David; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

The guidance states:

"Most NOED requests should be for a NOED CT [completion time] period of 72 hours or less...If a licensee is requesting a NOED for a period greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered."

---

**From:** Lew, David  
**Sent:** Friday, February 14, 2014 1:25 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks Eric. I understand that Mike will be the "Regional Administrator" designee. WRT to the 72 hours, I probably need to refresh my memory but I thought the 72 hours was based on the time until when the regulatory action was needed vice how long discretion was being given.

---

**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:15 PM  
**To:** Scott, Michael; Lew, David  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

We had a preliminary call with the licensee and NRR. They will in all likelihood be requesting a NOED at 4:00 today for an additional 4-6 days to support transformer replacement.

We discussed this internally after the discussion with the licensee. The NOED guidance indicates that typically NOEDs are only for 72 hours or less, but NRR indicated that NRC has granted them for longer and would provide examples. The basis seemed to be that if we would grant the emergency TS anyway, we should just go ahead and grant the NOED instead. We have some concerns with this logic as it seems to be circumventing the licensing process. We are going to discuss further with NRR as to whether an emergency TS change is the more appropriate vehicle, with a NOED only being considered if the review of that change exceeded the LCO time.

Attached is a position paper NRR's electrical engineering branch developed on the topic. One of the issues mentioned both on the call and in the paper is the availability of additional power sources...previous NOED's have resulted in portable diesels being brought onsite, so this may be a big aspect on deciding whether to grant a NOED or emergency TS change.

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**From:** Dean, Bill  
**Sent:** Thursday, February 13, 2014 10:54 PM  
**To:** Scott, Michael; Benner, Eric; Lew, David; Dentel, Glenn  
**Subject:** Re: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks for the heads up. We will need to assure licensee has a sense of the noed criteria to make sure they understand what they need to support such a request.

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Scott, Michael  
**Sent:** Thursday, February 13, 2014 09:49 PM  
**To:** Benner, Eric; Dean, Bill; Lew, David; Dentel, Glenn  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

We will obviously need to see how this plays out and will need to be ready for another possible Sunday morning NOED call. I'm sure Glenn will be alerting the likely participants tomorrow.

---

**From:** Benner, Eric  
**Sent:** Thursday, February 13, 2014 8:37 PM  
**To:** Dean, Bill; Lew, David  
**Cc:** Scott, Michael  
**Subject:** FW: SLM - 24 Station Power Xfmr gassing - Initial information

FYI

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**From:** Dentel, Glenn  
**Sent:** Thursday, February 13, 2014 7:25 PM  
**To:** Scott, Michael; Benner, Eric  
**Subject:** Fw: SLM - 24 Station Power Xfmr gassing - Initial information  
**Importance:** High

Mike and Eric,

Salem is in a 72 hour for a transformer inop that bring offsite power to 4 kv safety buses. They are replacing but potentially may request an NOED. We will have more information tomorrow (details below).

Glenn  
Sent by Blackberry

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**From:** Finney, Patrick  
**Sent:** Thursday, February 13, 2014 04:18 PM Eastern Standard Time  
**To:** Barkley, Richard; Dentel, Glenn; Draxton, Mark; Dumont, Louis; Hughey, John; Ott, Carol; Reyes, Brandon; Ziedonis, Adam  
**Cc:** Finney, Patrick

**Subject:** SLM - 24 Station Power Xfmr gassing - Initial information

Bottom line up front: Salem Unit 2 is in a 72 hr Shutdown LCO that expires at 1356 on Sunday due to de-energizing the 24 Station Power Xfmr (SPT). This places Salem 2 in a Yellow risk condition based on all three vital busses being supplied from the same offsite power source.

Facts: Shift Manager called the SRI at 1530 today. At 0030 this morning, Ops received a 24 SPT alarm for gassing. PSEG obtained an initial reading of 105 ppm ethylene but was not able to obtain a followup sample since the Chevron monitoring system malfunctioned. Ops decided to implement the Adverse Condition Monitoring (ACM) plan guidance on the xfmr (already in place) that the xfmr should be unloaded if ethylene exceeded 100 ppm. Loads were transferred to the 23 SPT. Subsequently, the 24 SPT had another alarm. PSEG obtained initial and confirmatory readings of 203 or so ppm ethylene. Ops implemented the next step in the ACM that directs de-energization of the xfmr. This placed Salem 2 in a 72 hr S/D LCO at 1356 hrs due to being on a single source of offsite power. Salem 2 has 3 vital busses and 2 offsite power xfmrs along with an EDG per vital bus. Online risk is now Yellow due to the condition. Attached is the current version of the ACM.

Discussion: Per phoncon with the Shift Manager, the readings on the installed Chevron system have been correlating with those performed by lab analysis (Maplewood).

Actions:

PSEG - is taking RMAs to include protecting equipment. Salem 3 is available. The OCC is staffed and mobilizing a project team to replace the xfmr. Per phoncon with Kevin Chambliss, NRA, PSEG does not expect that they can replace the xfmr prior to expiration of the LCO. He wanted us to know that PSEG is preliminarily preparing to request a NOED followed by an emergent one-time TS amendment. Details on this and more on the xfmr to follow.

NRC - Salem residents to monitor the situation via various inspection samples to include 1R13 (emergent risk), 1R19 (PMT), and 1R04Q (partial equipment lineup). No travel to the site will occur tonight based on pending adverse weather; the residents are in standby in the case that the Salem 2 situation worsens. Branch, including residents, to review the requirements of IMC 0410 on NOEDs (also attached).

Pat Finney

Salem SRI

(856-935-3850)

## Cook, William

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**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:45 PM  
**To:** Lew, David; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

The guidance states:

“Most NOED requests should be for a NOED CT [completion time] period of 72 hours or less...If a licensee is requesting a NOED for a period greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered.”

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**From:** Lew, David  
**Sent:** Friday, February 14, 2014 1:25 PM  
**To:** Benner, Eric; Scott, Michael  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

Thanks Eric. I understand that Mike will be the “Regional Administrator” designee. WRT to the 72 hours, I probably need to refresh my memory but I thought the 72 hours was based on the time until when the regulatory action was needed vice how long discretion was being given.

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**From:** Benner, Eric  
**Sent:** Friday, February 14, 2014 1:15 PM  
**To:** Scott, Michael; Lew, David  
**Cc:** Dean, Bill; Dentel, Glenn; Cook, William  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information  
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Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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Pat Finney  
Salem SRI  
(856-935-3850)

**Dean, Bill**

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**From:** Scott, Michael  
**Sent:** Friday, February 21, 2014 8:48 AM  
**To:** Dean, Bill  
**Cc:** Lew, David  
**Subject:** RE: NOED for Salem Unit 2

Request received Monday; reply letter signed out Wednesday.

Mike

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**From:** Dean, Bill  
**Sent:** Friday, February 21, 2014 4:59 AM  
**To:** Scott, Michael  
**Cc:** Lew, David  
**Subject:** Re: NOED for Salem Unit 2

Just for my edification, where do we stand on receiving the written NOED requests and issuing our reply?

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Scott, Michael  
**Sent:** Sunday, February 16, 2014 12:23 PM  
**To:** Lew, David  
**Cc:** Dean, Bill; Lorson, Raymond; Trapp, James; Benner, Eric; Khanna, Meena; Lund, Louise; Evans, Michele; Hughey, John; Dentel, Glenn; Uhle, Jennifer; Stuchell, Sheldon; Nieh, Ho; Finney, Patrick; Ziedonis, Adam; Cook, William; Matharu, Gurcharan; Zimmerman, Jacob; Draxton, Mark; Chung, Donald; Waig, Gerald  
**Subject:** NOED for Salem Unit 2

Yesterday (Friday), PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

TS 3.8.1.1 Action a for Salem Unit 2 requires restoration of the 24 SPT to Operable status within 72 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, 2014.

The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening, including addressing all the staff evaluation criteria under Inspection Manual Chapter (IMC) 0410 Section 0410-07. The staff held a call with the licensee that evening at the licensee's request, during which the licensee verbally made its NOED request. Region I, as well as NRR Tech Spec and Electrical branches, and the NRR Divisions of Risk Assessment and Policy and Rulemaking, participated in the call. At that time, the staff raised numerous questions, most of which the licensee addressed at the time but a few of which the licensee took back to consider and respond in a subsequent call. These questions included some regarding the reliability of the "jet engines" installed on site as a compensatory measure for the SPT 24 outage, the interface with Hope Creek (to which the jet engines can also supply power), contingencies for failure of other equipment during the proposed NOED period, and re-evaluation of the list of protected equipment.

The licensee revised its draft written NOED submittal in response to the Friday call, and resubmitted the draft request for staff review. At 1800 this evening, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about various aspects of a requested NOED duration twice the 72 hours noted in the guidance, including the increased likelihood of the licensee requesting further time beyond the 6 days proposed for the NOED and the apparent inconsistency of the duration requested with the guidance quoted. Further, cognizant NRR management had determined that the nature of this request made submittal of an LAR not necessary, appropriate, or good use of staff resources. This position could be viewed as inconsistent with the guidance quoted, and was a concern to some staff members.

You, as Acting Administrator for Region I, provided an opportunity for staff with views and concerns on this matter to share them with you. You also heard my recommendation that the NOED be approved, considering the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, that there is regulatory precedent for allowing NOEDs greater than 72 hours, and that conditions would be imposed on the NOED to help address some of the staff concerns raised. Specifically, the licensee would be expected to notify the staff immediately if protected equipment failed or the schedule margin for the planned work was used up, such that there would no longer be a reasonable expectation that the work could be completed within the NOED window. While the staff would of course consider any licensee-proposed path forward in such a situation, the staff's likely decision in such event would be to terminate the NOED and require the licensee to comply with its technical specifications.

At approximately 2015 this evening, you authorized me to grant the NOED as requested, subject to the conditions noted. I provided the verbal authorization, as well as the conditions, to the licensee at approximately 2110 this evening. There are two action items for the staff emerging from this; both pertain to NRR.

1. NRR will strongly consider revising IMC 0410 to more clearly reflect the practice of granting NOEDs for durations beyond 72 hours based on the merits of each specific case, and the possibility that such cases would not call for the licensee to submit a LAR.
2. NRR will provide the licensee references to cases in which other licensees have taken action to ensure loss of similar transformer applications can be addressed within a 72-hour LCO, thus avoiding need for a NOED. The staff would view a repeat NOED request for the same issue as very problematic.

I would like to offer my thanks to the many staff members who devoted extensive time over the weekend to bring this matter to conclusion. All interactions on this matter were conducted in a manner fully consistent with open collaborative work environment, and with appropriate first focus on safety. I don't dare attempt to name all the involved personnel here for fear I leave someone out. But I am sure their managers will recognize them for a job very well done. The licensee expressed their appreciation for the staff's professionalism on this matter.

Mike Scott  
Acting Director  
Region I Division of Reactor Projects

**Dean, Bill**

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**From:** Lew, David  
**Sent:** Friday, February 21, 2014 11:49 AM  
**To:** Dean, Bill; Scott, Michael; Clifford, James  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)  
**Attachments:** NOED for Salem - February 2014.pdf; NOED for Salem - February 2014.docx  
**Importance:** High

Bill, Here is the NOED letter for your info. Dave

Mike, I was not clear on one of the compensatory actions. Specifically, "While the 24 SPT was removed from service, your staff stated that they implemented the following actions, among others, to reduce the risk to the offsite and onsite safety-related power distribution system: 1) monitored the critical parameters of the 23 and 24 SPTs on a once per operating shift basis, including gas sampling;" Did we only mean the 23 SPT since the 24 was removed from service? Dave

---

**From:** ODaniell, Cynthia  
**Sent:** Friday, February 21, 2014 10:51 AM  
**To:** Lew, David  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)  
**Importance:** High

Per your request

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**From:** R1DRPMAIL RESOURCE  
**Sent:** Friday, February 21, 2014 10:44 AM  
**To:** ODaniell, Cynthia  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

Dave is looking for this - wasn't sure if I should send it electronically or have you print it - he was looking for it in his email.

Let me know if on things like this we should send directly to their personal email address?

Laurie

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**From:** Thompson, Margaret  
**Sent:** Wednesday, February 19, 2014 7:04 PM  
**To:** R1ORAMAIL RESOURCE; R1DRPMAIL RESOURCE; R1DRSMAIL RESOURCE; Dentel, Glenn; Barkley, Richard; Draxton, Mark; Reyes, Brandon; Finney, Patrick; Ziedonis, Adam; Ott, Carol; Quinones, Ernesto; RidsNrrPMSalem Resource; RidsNrrDorLpl1-2 Resource; Cook, William; Lund, Louise; Khanna, Meena; Stuchell, Sheldon; Hughey, John; Matharu, Gurcharan; Chung, Donald; Clifford, James; Bickett, Brice  
**Subject:** Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

DISTRIBUTION:

Seem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem  
Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

ADAMS Document Accession No.: ML14050A405  
ADAMS Document Profile as: Public/Non-Sensitive

*publicly available*

Margie Thompson  
Administrative Assistant  
Div of Reactor Projects, Region I  
610-337-5226 <sup>w</sup>

**Dean, Bill**

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**From:** Lew, David  
**Sent:** Monday, February 17, 2014 12:29 PM  
**To:** Dean, Bill  
**Subject:** RE: NOED for Salem Unit 2

I hear the snow followed you to Japan.

We had another round of discussions on Sunday when testing of one of the compensatory measures (Salem U3 jet engines) did not go as planned prior to entering the NOED period. There are two jet engines and one of them did not work. One jet engine is rated about 20 MW but the concern was reliability and whether they were meeting their verbal NOED commitment. The licensee believed that the Unit 3 was still functional. Some viewed that the commitment was no longer met and that the NOED should be void. Others (including the NOED process owner) did not think that it was as clear. The risk assessment did not give credit for U3 (was still in the 10-8 to 10-9 range) but was believe to be need for defense in depth and consistency with guidance and a branch technical position. In the end, the staff accepted the licensee committing to test the remaining jet engine every 12 hours. Note that the other jet engine cannot be restored without taking both jet engines out for 3 hours. Also note that the staff was again at an impasse and brought this to me and Jennifer Uhle.

---

**From:** Dean, Bill  
**Sent:** Sunday, February 16, 2014 4:12 PM  
**To:** Lew, David  
**Subject:** Re: NOED for Salem Unit 2

Thanks Dave. That was the sense I got given the messaging from Mike. It seems like we did bend the process a bit to save NRR dome work but if what you say is true re: no other additional value or technical quality, can understand the rationale. We do have to be conscious of not making ourselves slaves to processes that exist just for process sake. Hopefully NRR had some good examples of precedent that helped our staff.

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Lew, David  
**Sent:** Sunday, February 16, 2014 09:54 PM  
**To:** Dean, Bill  
**Cc:** Lew, David  
**Subject:** Re: NOED for Salem Unit 2

Hi Bill.

How were your travels?

Seemed like some stronger views from Glenn Dentel. Bill Cook had strong views as well as Ray Lorson. That said, all wanted to have the perspective voiced and considered in the decision making. The residents did not have a view on this policy matter.

There was a difference in views that we were outside the guidance. Some believed we were within the flexibility of the guidance based on the word "should vice shall", the NRR expert who indicated that the intent was to allow issuance of a NOED for a situation such as Salem and other NOEDs (although few) that were

issued and exceeded the 72 hours. Others were concerned that the agency's credibility would be at risk given an unbiased reading of the guidance and our failure to adhere to the process. Also they believed we are at risk from a credibility standpoint given the challenging task of replacing the transformer within the six days requested (but that would be true of an NOED/Emergency TS change). That said, the risk was determined to be low and the alternative of issuing a NOED for three days to allow NRR to then issue an Emergency TS change would not add more technical value, would not provide any more opportunity for public engagement or awareness, and would be an unnecessary work for NRR who focus on other issues. Bottom line was that I felt that we would be at risk either way; I.e. drawing a line on this one where the risk was very low seemed after having issued others greater than 72 hours also raises credibility issues and challenges our principles of good regulation. The best way forward was to commit to clarify the intent by revisiting the guidance.

Sent via My Workspace for iOS

On Sunday, February 16, 2014 at 3:15:51 AM, "Dean, Bill" <[Bill.Dean@nrc.gov](mailto:Bill.Dean@nrc.gov)> wrote:

How strong was sense we were outside guidance and should pursue LAR?

Bill Dean

Regional Administrator

Region I, USNRC

Sent from NRC BlackBerry

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**From:** Lew, David

**Sent:** Sunday, February 16, 2014 03:24 PM

**To:** Scott, Michael

**Subject:** Re: NOED for Salem Unit 2

Thanks Mike. This is a very comprehensive summary. I didn't intend for you to spend so much time to document in such detail. I will use some of the info and prepare a high level summary so that the acting DEDO can be aware and communicate with the Chairman and EDO. I'll likely do it tomorrow from the office.

Sent via My Workspace for iOS

On Saturday, February 15, 2014 at 10:23:02 PM, "Scott, Michael" <[Michael.Scott@nrc.gov](mailto:Michael.Scott@nrc.gov)> wrote:

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Mike Scott  
Acting Director  
Region I Division of Reactor Projects

**Lew, David**

---

**From:** Lew, David  
**Sent:** Friday, February 21, 2014 5:32 PM  
**To:** Dean, Bill  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

FYI

Sent via My Workspace for iOS

----- Forwarded Message -----

**From:** "Scott, Michael" <Michael.Scott@nrc.gov>  
**Date:** Friday, February 21, 2014 at 5:23:33 PM  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)  
**To:** "Lew, David" <David.Lew@nrc.gov>  
FYI. Was typo – which no one caught until after the fact.

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**From:** Dentel, Glenn  
**Sent:** Friday, February 21, 2014 3:21 PM  
**To:** Scott, Michael  
**Subject:** RE: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

They were monitoring #23 and ~~#24~~ SPT. This was corrected yesterday (use of #24 versus #4) on the public ADAMS document and being resent today on list serve. The #24 SPT was out of service.

*Glenn Dentel*

Branch Chief responsible for oversight of Seabrook, Salem and Hope Creek  
610-337-5233 (w)

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**From:** Scott, Michael  
**Sent:** Friday, February 21, 2014 12:45 PM  
**To:** Dentel, Glenn  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)  
**Importance:** High

Glenn:

Were they monitoring 24 SPT while out of service?

Mike

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**From:** Lew, David  
**Sent:** Friday, February 21, 2014 11:49 AM  
**To:** Dean, Bill; Scott, Michael; Clifford, James  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)  
**Importance:** High

Bill, Here is the NOED letter for your info. Dave

Mike, I was not clear on one of the compensatory actions. Specifically, "While the 24 SPT was removed from service, your staff stated that they implemented the following actions, among others, to reduce the risk to the offsite and onsite safety-related power distribution system: 1) monitored the critical parameters of the 23 and 24 SPTs on a once per operating shift basis, including gas sampling;" Did we only mean the 23 SPT since the 24 was removed from service? Dave

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**From:** ODaniell, Cynthia  
**Sent:** Friday, February 21, 2014 10:51 AM  
**To:** Lew, David  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)  
**Importance:** High

Per your request

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**From:** R1DRPMAIL RESOURCE  
**Sent:** Friday, February 21, 2014 10:44 AM  
**To:** ODaniell, Cynthia  
**Subject:** FW: Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

Dave is looking for this - wasn't sure if I should send it electronically or have you print it – he was looking for it in his email.

Let me know if on things like this we should send directly to their personal email address?

Laurie

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**From:** Thompson, Margaret  
**Sent:** Wednesday, February 19, 2014 7:04 PM  
**To:** R1ORAMAIL RESOURCE; R1DRPMAIL RESOURCE; R1DRSMAIL RESOURCE; Dentel, Glenn; Barkley, Richard; Draxton, Mark; Reyes, Brandon; Finney, Patrick; Ziedonis, Adam; Ott, Carol; Quinones, Ernesto; RidsNrrPMSalem Resource; RidsNrrDorlLpl1-2 Resource; Cook, William; Lund, Louise; Khanna, Meena; Stuchell, Sheldon; Hughey, John; Matharu, Gurcharan; Chung, Donald; Clifford, James; Bickett, Brice  
**Subject:** Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

DISTRIBUTION:

Salem Nuclear Generating Station - NRC Notice of Enforcement Discretion for PSEG Nuclear regarding Salem Unit 2 (TAC no. MF3417, NOED no. 14-1-02)

ADAMS Document Accession No.: ML14050A405  
ADAMS Document Profile as: Public/Non-Sensitive

*public*

Margie Thompson  
Administrative Assistant  
Div of Reactor Projects, Region I  
610-337-5226      W

## **Lew, David**

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**From:** Dean, Bill  
**Sent:** Monday, February 17, 2014 5:04 PM  
**To:** Lew, David  
**Subject:** Re: NOED for Salem Unit 2

Actually it beat us here but had been cleared by time we got here.

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Lew, David  
**Sent:** Tuesday, February 18, 2014 02:28 AM  
**To:** Dean, Bill  
**Subject:** RE: NOED for Salem Unit 2

I hear the snow followed you to Japan.

We had another round of discussions on Sunday when testing of one of the compensatory measures (Salem U3 jet engines) did not go as planned prior to entering the NOED period. There are two jet engines and one of them did not work. One jet engine is rated about 20 MW but the concern was reliability and whether they were meeting their verbal NOED commitment. The licensee believed that the Unit 3 was still functional. Some viewed that the commitment was no longer met and that the NOED should be void. Others (including the NOED process owner) did not think that it was as clear. The risk assessment did not give credit for U3 (was still in the 10-8 to 10-9 range) but was believe to be need for defense in depth and consistency with guidance and a branch technical position. In the end, the staff accepted the licensee committing to test the remaining jet engine every 12 hours. Note that the other jet engine cannot be restored without taking both jet engines out for 3 hours. Also note that the staff was again at an impasse and brought this to me and Jennifer Uhle.

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**From:** Dean, Bill  
**Sent:** Sunday, February 16, 2014 4:12 PM  
**To:** Lew, David  
**Subject:** Re: NOED for Salem Unit 2

Thanks Dave. That was the sense I got given the messaging from Mike. It seems like we did bend the process a bit to save NRR dome work but if what you say is true re: no other additional value or technical quality, can understand the rationale. We do have to be conscious of not making ourselves slaves to processes that exist just for process sake. Hopefully NRR had some good examples of precedent that helped our staff.

Bill Dean  
Regional Administrator  
Region I, USNRC  
Sent from NRC BlackBerry

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**From:** Lew, David  
**Sent:** Sunday, February 16, 2014 09:54 PM  
**To:** Dean, Bill  
**Cc:** Lew, David  
**Subject:** Re: NOED for Salem Unit 2

Hi Bill.

How were your travels?

Seemed like some stronger views from Glenn Dentel. Bill Cook had strong views as well as Ray Lorson. That said, all wanted to have the perspective voiced and considered in the decision making. The residents did not have a view on this policy matter.

There was a difference in views that we were outside the guidance. Some believed we were within the flexibility of the guidance based on the word "should vice shall", the NRR expert who indicated that the intent was to allow issuance of a NOED for a situation such as Salem and other NOEDs (although few) that were issued and exceeded the 72 hours. Others were concerned that the agency's credibility would be at risk given an unbiased reading of the guidance and our failure to adhere to the process. Also they believed we are at risk from a credibility standpoint given the challenging task of replacing the transformer within the six days requested (but that would be true of an NOED/Emergency TS change). That said, the risk was determined to be low and the alternative of issuing a NOED for three days to allow NRR to then issue an Emergency TS change would not add more technical value, would not provide any more opportunity for public engagement or awareness, and would be an unnecessary work for NRR who focus on other issues. Bottom line was that I felt that we would be at risk either way; I.e. drawing a line on this one where the risk was very low seemed after having issued others greater than 72 hours also raises credibility issues and challenges our principles of good regulation. The best way forward was to commit to clarify the intent by revisiting the guidance.

Sent via My Workspace for iOS

On Sunday, February 16, 2014 at 3:15:51 AM, "Dean, Bill" <[Bill.Dean@nrc.gov](mailto:Bill.Dean@nrc.gov)> wrote:

How strong was sense we were outside guidance and should pursue LAR?

Bill Dean

Regional Administrator

Region I, USNRC

Sent from NRC BlackBerry

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**From:** Lew, David

**Sent:** Sunday, February 16, 2014 03:24 PM

**To:** Scott, Michael

**Subject:** Re: NOED for Salem Unit 2

Thanks Mike. This is a very comprehensive summary. I didn't intend for you to spend so much time to document in such detail. I will use some of the info and prepare a high level summary so that the acting DEDO can be aware and communicate with the Chairman and EDO. I'll likely do it tomorrow from the office.

Sent via My Workspace for iOS

On Saturday, February 15, 2014 at 10:23:02 PM, "Scott, Michael" <[Michael.Scott@nrc.gov](mailto:Michael.Scott@nrc.gov)> wrote:

Yesterday (Friday), PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

TS 3.8.1.1 Action a for Salem Unit 2 requires restoration of the 24 SPT to Operable status within 72 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. PSEG requested enforcement discretion for a period of 6 days, beginning at 1356 on February 16, 2014.

The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening, including addressing all the staff evaluation criteria under Inspection Manual Chapter (IMC) 0410 Section 0410-07. The staff held a call with the licensee that evening at the licensee's request, during which the licensee verbally made its NOED request. Region I, as well as NRR Tech Spec and Electrical branches, and the NRR Divisions of Risk Assessment and Policy and Rulemaking, participated in the call. At that time, the staff raised numerous questions, most of which the licensee addressed at the time but a few of which the licensee took back to consider and respond in a subsequent call. These questions included some regarding the reliability of the "jet engines" installed on site as a compensatory measure for the SPT 24 outage, the interface with Hope Creek (to which the jet engines can also supply power), contingencies for failure of other equipment during the proposed NOED period, and re-evaluation of the list of protected equipment.

The licensee revised its draft written NOED submittal in response to the Friday call, and resubmitted the draft request for staff review. At 1800 this evening, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about various aspects of a requested NOED duration twice the 72 hours noted in the guidance, including the increased likelihood of the licensee requesting further time beyond the 6 days proposed for the NOED and the apparent inconsistency of the duration requested with the guidance quoted. Further, cognizant NRR management had determined that the nature of this request made submittal of an LAR not necessary, appropriate, or good use of staff resources. This position could be viewed as inconsistent with the guidance quoted, and was a concern to some staff members.

You, as Acting Administrator for Region I, provided an opportunity for staff with views and concerns on this matter to share them with you. You also heard my recommendation that the NOED be approved, considering the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, that there is regulatory precedent for allowing NOEDs greater than 72 hours, and that conditions would be imposed on the NOED to help address some of the staff concerns raised. Specifically, the licensee would be expected to notify the staff immediately if protected equipment failed or the schedule margin for the planned work was used up, such that there would no longer be a reasonable expectation that the work could be completed within the NOED window. While the staff would of course consider any licensee-proposed path forward in such a situation, the staff's likely decision in such event would be to terminate the NOED and require the licensee to comply with its technical specifications.

At approximately 2015 this evening, you authorized me to grant the NOED as requested, subject to the conditions noted. I provided the verbal authorization, as well as the conditions, to the licensee at approximately 2110 this evening. There are two action items for the staff emerging from this; both pertain to NRR.

1. NRR will strongly consider revising IMC 0410 to more clearly reflect the practice of granting NOEDs for durations beyond 72 hours based on the merits of each specific case, and the possibility that such cases would not call for the licensee to submit a LAR.
2. NRR will provide the licensee references to cases in which other licensees have taken action to ensure loss of similar transformer applications can be addressed within a 72-hour LCO, this avoiding need for a NOED. The staff would view a repeat NOED request for the same issue as very problematic.

I would like to offer my thanks to the many staff members who devoted extensive time over the weekend to bring this matter to conclusion. All interactions on this matter were conducted in a manner fully consistent with open collaborative work environment, and with appropriate first focus on safety. I don't dare attempt to name all the involved personnel here for fear I leave someone out. But I am sure their managers will recognize them for a job very well done. The licensee expressed their appreciation for the staff's professionalism on this matter.

Mike Scott  
Acting Director  
Region I Division of Reactor Projects

## Lew, David

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**From:** Lew, David  
**Sent:** Sunday, February 16, 2014 8:02 AM  
**To:** Scott, Michael  
**Cc:** Lew, David  
**Subject:** RE: NOED for Salem Unit 2

In fact, it was quite thorough. I was just concerned with your level of effort after spending so much time and late into Saturday. I guess I missed the mark in communicating. Btw, I thought you did a great job filling in the blanks and sharing the other views during the internal Region I discussion. I think we came out I'm the right place but at the same time I thought Glenn, Bill and Ray deserves a lot of credit for being our conscious and highlighting this issue. I intend on sending them a thank you email when I get into the office in an hour.

Sent via My Workspace for iOS

On Sunday, February 16, 2014 at 7:45:31 AM, "Scott, Michael" <[Michael.Scott@nrc.gov](mailto:Michael.Scott@nrc.gov)> wrote:

Sorry I missed the mark Dave. I really don't want my shortcomings to result in anyone going in to work on a Sunday. Here is the Readers Digest version - hope that helps.

Mike

Friday, PSEG Nuclear (PSEG) requested enforcement discretion from compliance with Salem Technical Specification (TS) Section 3.8.1, "AC Sources - Operating." Station Power Transformer (SPT) 24 was declared inoperable at 1356 on February 13, 2014, as a result of transformer combustible gas levels indicating an active thermal fault. PSEG is replacing the existing 24 SPT with a like-for-like spare.

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The licensee provided a draft written Notice of Enforcement Discretion (NOED) request Friday evening. In response to staff technical questions, the licensee revised its draft written NOED submittal and resubmitted the draft request for staff review. At 1800 Saturday, the staff discussed the results of its technical review with the licensee. All staff technical concerns and questions were resolved, in some cases with conditions on a NOED should it be granted.

Several challenges to approval of the NOED involved the guidance in IMC 0410, the guidance applicable to NOEDs. Specifically, that guidance states: "Most NOED requests should be for a CT period of 72 hours or less." "If a licensee is requesting a NOED for greater than 72 hours, a license amendment request (LAR) is more appropriate and the NOED may be used to allow time for the LAR to be considered." Staff raised concerns about a requested NOED duration twice the 72 hours noted in the guidance, and also regarding NRR's decision not to expect an LAR from the licensee. These concerns were discussed by management. Based on the low risk of the proposed activity, the view of NRR that an LAR would not add significant technical depth to the review, the regulatory precedent for allowing NOEDs greater than 72 hours, and the fact that conditions would be imposed on the NOED to help address some of the staff concerns raised, the Region I Acting Regional Administrator, with concurrence of the Director of DORL, authorized the Acting Region I DRP Director to grant the NOED with specified conditions. The licensee was informed of this at 2110 Saturday.

## Lew, David

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**From:** Scott, Michael  
**Sent:** Saturday, February 15, 2014 10:23 PM  
**To:** Lew, David  
**Cc:** Dean, Bill; Lorson, Raymond; Trapp, James; Benner, Eric; Khanna, Meena; Lund, Louise; Evans, Michele; Hughey, John; Dentel, Glenn; Uhle, Jennifer; Stuchell, Sheldon; Nieh, Ho; Finney, Patrick; Ziedonis, Adam; Cook, William; Matharu, Gurcharan; Zimmerman, Jacob; Draxton, Mark; Chung, Donald; Waig, Gerald  
**Subject:** NOED for Salem Unit 2

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planned work was used up, such that there would no longer be a reasonable expectation that the work could be completed within the NOED window. While the staff would of course consider any licensee-proposed path forward in such a situation, the staff's likely decision in such event would be to terminate the NOED and require the licensee to comply with its technical specifications.

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Mike Scott  
Acting Director  
Region I Division of Reactor Projects

**McLaughlin, Marjorie**

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**From:** Barkley, Richard  
**Sent:** Monday, April 21, 2014 10:01 AM  
**To:** McLaughlin, Marjorie  
**Subject:** RE: SLM - 24 Station Power Xfmr gassing - Initial information

Yep – No problem releasing that. Later emails were much more detailed.

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**From:** McLaughlin, Marjorie  
**Sent:** Monday, April 21, 2014 9:57 AM  
**To:** Barkley, Richard  
**Subject:** FW: SLM - 24 Station Power Xfmr gassing - Initial information

Rich,

In reviewing my emails in response to the Salem FOIA, I found the attached email record. Can you please let me know if the portion from Pat with the info about the site, can be publicly released?

Thanks!

Marjey

B64