

To: Leeds, NRR  
Ref: G20110740

**Jaegers, Cathy**

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**From:** Lawrence Criscione [lscriscione@hotmail.com]  
**Sent:** Sunday, January 08, 2012 11:56 PM  
**To:** Borchardt, Bill; Thadani, Mohan  
**Subject:** FW: Supplement to October 7, 2011 10CFR2.206 Petition  
**Attachments:** Supplement to October 7, 2011 Petition.pdf

cy: RIV  
OGC  
Mensah, NRR  
Baric, NRR  
Scott, OGC  
Bowman, OEDO

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From: lscriscione@hotmail.com  
To: lscriscione@hotmail.com  
CC: jmo4rep@juno.com; jeanette.oxford@house.mo.gov; showmenocwip@gmail.com; tritium3@sbcglobal.net; dlochbaum@ucsusa.org; davelochbaum@gmail.com; mohan.thadani@nrc.gov  
Subject: Supplement to October 7, 2011 10CFR2.206 Petition  
Date: Sun, 8 Jan 2012 22:53:24 -0500

Mr. Borchardt,

Please accept the attached supplement to my October 7, 2011 10CFR2.206 petition.

Thank you,

Larry

Lawrence S. Criscione  
(573) 230-3959

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From: lscriscione@hotmail.com  
To: hubert.bell@nrc.gov  
CC: david.lee@nrc.gov; rossana.raspa@nrc.gov; mark.banks@nrc.gov; mohan.thadani@nrc.gov; james.polickoski@nrc.gov; elmo.collins@nrc.gov; jmo4rep@juno.com; jeanette.oxford@house.mo.gov; dlochbaum@ucsusa.org; davelochbaum@gmail.com  
Subject: Allegation regarding NRC Region IV allowing Ameren to violate its Technical Specifications for Callaway Plant  
Date: Tue, 8 Nov 2011 18:18:49 -0500

Mr. Bell,

Please see the attached 10CFR2.206 Request.

I believe that Callaway Plant's practice of by-passing the P-4/564°F Feedwater Isolation Signal is not in compliance with their Technical Specifications.

Region IV reviewed the attached 10CFR2.206 petition a day prior to Callaway Plant shutting down their reactor for their latest refueling outage (mid-October 2011) and, contrary to my request, allowed Callaway Plant to bypass the P-4/564°F FWIS while in MODE 1.

I believe that Region IV is in the wrong. Although Region IV has not done anything dishonest or contrary to their procedures, I believe that, by mistakenly allowing Callaway Plant to once again violate their Technical Specifications, Region IV now has a conflict of interest with regard to evaluating my 10CFR2.206 petition.

I have been told by Mohan Thadani that parts of the attached 10CFR2.206 petition are to be assigned as an allegation and will not be handled by a transparent process (such as the 10CFR2.206 process). I have not been told which parts of the attached petition are to be assigned as allegations and exactly what those allegations are.

I wish to allege the following:

1. Callaway Plant's practice of by-passing the P-4/564°F Feedwater Isolation Signal is in violation of their Technical Specifications as currently written.
2. Callaway Plant's Safety Culture is inadequate as evidenced by the way that the plant's upper management responded to CAR 200703001 (all record of which was deleted from the system).
3. Callaway Plant's process for reviewing industry operating experience is inadequate as evidenced by the fact that they did not question their Technical Specifications after Wolf Creek released LER 482-2009-009.

I would like the Office of the Inspector General to investigate the above allegations. I specifically do not wish the above three allegations to be investigated by Region IV as I believe they have a conflict of interest in the matter based on their recent decision to allow Callaway Plant to bypass the P-4/564°F FWIS in MODE 1.

I would like to see the following actions taken during the investigation of my allegation:

- NRR/DIRS/ITSB be consulted regarding the attached 10CFR2.206 petition for their assessment as to whether or not Callaway Plant's Technical Specifications allow the P-4/564°F FWIS to be bypassed in MODE 1.
- The Wolf Creek Resident Inspectors responsible for writing NCV 05000482/2009004-04 be consulted regarding the attached 10CFR2.206 petition for their assessment as to whether or not Callaway Plant's Technical Specifications allow the P-4/564°F FWIS to be bypassed in MODE 1.
- Amy Cabbage be consulted regarding the attached 10CFR2.206 petition for her assessment as to whether or not her 1998 Safety Evaluation (see pages 40-42 of the enclosure to the attached document) allows the P-4/564°F FWIS to be bypassed in MODE 1 or if it was only meant to be applied to MODE 3.

Please let me know if the Office of Inspector General will be accepting my allegations.

Although my concerns are well documented in the attached document, I would appreciate it if the Office of Inspector General would interview me prior to conducting any investigation. This is a complicated issue and it has been my experience that it is very important for the investigators to first interview the concerned individual prior to embarking on the investigation of such a technically complicated issue.

I do not wish to remain anonymous. I understand that the allegations process is not a transparent process, but I would like an effort to be made to transparently record the assessments of NRR/DIRS/ITSB, the Wolf Creek resident inspectors and Ms. Amy Cabbage so that I might understand how the US NRC arrived at their conclusions.

V/r,

Larry

Lawrence S. Criscione  
(573) 230-3959

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From: lscriscione@hotmail.com  
To: david.dumbacher@nrc.gov  
Subject: FW: P-4/564°F FWIS at Wolf Creek and Callaway Plant  
Date: Tue, 8 Nov 2011 17:19:23 -0500

Please see below. I believe I used the wrong email address when I originally sent this.

Larry

Lawrence S. Criscione  
(573) 230-3959

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From: lscriscione@hotmail.com  
To: dave.dumbacher@nrc.gov  
CC: anton.vegel@nrc.gov; jmo4rep@juno.com; jeanette.oxford@house.mo.gov; john.kramer@nrc.gov;

showmenocwip@gmail.com

Subject: FW: P-4/564°F FWIS at Wolf Creek and Callaway Plant

Date: Tue, 8 Nov 2011 17:17:45 -0500

Dave,

I appreciate you and Tony taking the time to come to St. Louis today and discuss the October 21, 2003 passive shutdown.

One disappointment I had was when you stated that, given all that was going on, taking 40 minutes to insert the control rods did not seem like a long time. I would like you to consider putting yourself in their situation (both you and John Kramer were licensed SROs at a 4-loop Westinghouse plants so you know exactly what they faced):

- It's 11:25 am, the Channel 2 SRNI has just energized and you have just realized for the first time that you are in the source range. Until receiving the SRNI alarm, you had thought your Reactor Operators were maintaining the plant in MODE 2 at ~2% power (you now realize the 2% power was coming entirely from decay heat).
- The control rods are still at their last critical rod heights.
- From your navy and utility training, you know that Xenon-135 is going to keep you from restarting as long as there is no uncontrolled cooldown or dilution.

Which of the following would you do:

1. Order the Reactor Operator to insert the control rods?
2. Inform the Outage Control Center that the reactor inadvertently shut down and transited into the source range without the operators noticing it?
3. Ensure a Condition Report is written prior to getting off watch and, once relieved, convene an Event Review Team to analyze the incident?
4. Assign a Reactor Operator to place Containment Mini-Purge in service (11:42) while the reactor is in the source range with the control rods at their last critical rod heights?
5. Assign a Reactor Operator to start the Start Up Feed Pump (11:40) and secure the Main Feed Pump (11:51) while the reactor is in the source range with the control rods at their last critical rod heights?
6. Give permission to I&C to perform PRNI surveillances (11:42) while the reactor is in the source range with the control rods at their last critical rod heights?
7. Review the closeout paper work for off-normal procedure OTO-NN-00001 while the reactor is in the source range with the control rods at their last critical rod heights?
8. Perform a crew update brief while the reactor is in the source range with the control rods at their last critical rod heights?

I seriously doubt that you would do items 4-8 (what Dave Lantz chose to do) and I seriously hope that you would do items 1-3 (what Dave Lantz chose not to do). I don't expect an answer from you, but I would appreciate it if you and John Kramer would consider the above questions so you can see where I am coming from.

With regard to the P-4/564°F FWIS, I believe the document you tried to draw my attention to during our meeting is included as pages 41-43 of the attached document. If it is, then I reviewed that document in March 2007 while at Callaway Plant (both Bert Yates and Pat Shannon provided it to me), in April 2010 prior to contacting Geoff Miller, and on October 6th of this year prior to updating and sending out the attached 10CFR2.206 request.

I disagree with your assessment that the Callaway Plant shutdown procedure is in compliance with Tech Spec Table 3.3.2-1. This is a complicated issue. In a January 25, 2006 email (see p. 39 of the attached 10CFR2.206 request) Bert Yates appears to agree with me (and the Wolf Creek inspectors and NRR/DORL) that a footnote needs to be added to Table 3.3.2-1 in order to by-pass a P-4 function in MODE 1. After consulting with industry peers, in a Sept. 7, 2006 email (p. 29 or attachment) Yates softens his opinion and states that all that is needed is a Tech Spec Bases change. Keith Mills, however, in the same Sept. 7, 2006 email chain (p. 27) disagrees with Bert Yates and agrees with my position - that a footnote needs to be added to Table 3.3.2-1. Again, in a Sept. 22, 2006 email (p. 26) Yates supports a mere bases

change. Then in the 10CFR50.59 Screening (page 44-47) Bert Yates and Duane Martin reach your position: that not even a Bases change is needed - the 1998 NRR Safety Evaluation signed by Amy Cabbage is good enough.

I disagree with your position. I do not fault you, Bert Yates or Duane Martin for your mistakes; yet I do believe all of you are mistaken and I believe the Resident Inspectors at Wolf Creek as well as several engineers at NRR/DORL side with me. I have not discussed this issue with Amy Cabbage, but I would be surprised if she supported her 1998 Safety Evaluation being used to bypass the P-4/564°F FWIS in MODE 1.

I intend to discuss my concerns with the NRC Inspector General. Although I do not believe you or Region IV have done anything dishonest or in violation of your procedures (i.e. there is nothing wrong with having a mistaken professional opinion on a complicated issue), I believe that, because you allowed Callaway Plant to once again violate their Tech Specs (in my opinion) by by-passing the P-4/564°F FWIS in MODE 1, Region IV is incapable of impartially looking into my concerns.

Again, I appreciate the time you and Tony took today to meet with Jeanette and to allow me to attend the meeting. I recognize that, from a risk standpoint, an inordinate amount of effort has been expended in looking into my concerns. I hope you recognize that, from a Safety Culture standpoint, my concerns warrant the effort - we (the regulator/the industry/the nation) must hold our nuclear power plant operators to the highest standards of integrity and honesty.

V/r,

Larry

Lawrence S. Criscione  
(573) 230-3959

*If responsibility is rightfully yours, no evasion, or ignorance or passing the blame can shift the burden to someone else.*

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From: lscriscione@hotmail.com  
To: bill.borchardt@nrc.gov  
CC: jmo4rep@juno.com; jeanette.oxford@house.mo.gov; mohan.thadani@nrc.gov; james.polickoski@nrc.gov  
Subject: FW: P-4/564°F FWIS at Wolf Creek and Callaway Plant  
Date: Fri, 7 Oct 2011 23:00:31 -0400

Mr. Borchardt:

In late Spring 2010 I read Revision 01 to LER 482-2009-009. Because of work I spearheaded at Callaway Plant, upon reading the Wolf Creek Licensee Event Report I was concerned about the acceptability of the Reactor Shutdown procedure at Callaway Plant. In the summer of 2010 I wrote most of the attached 10CFR2.206 Request, which I did not submit since I believed that there was some likelihood that either Region IV or Callaway Plant would adequately respond to the Wolf Creek LER by revising Table 3.3.2-1 of the Callaway Plant Technical Specifications in a similar manner as Wolf Creek had applied to revise the same table in their Technical Specifications. However, it has now been 1½ years and I no longer think it is likely that Region IV or Callaway Plant are going to correct the issues with the Reactor Shutdown procedure and Callaway Plant will likely be again violating their Technical Specifications by bypassing the P-4/564°F FWIS in MODE 1 as part of their reactor shutdown plan for their upcoming refueling outage.

My request is:

**The US NRC prevent Callaway Plant from bypassing the P-4/564°F FWIS in MODEs 1 through 3 until their Technical Specifications are revised to allow this practice.**

I would like a preliminary evaluation of the steps in Callaway Plant's Reactor Shutdown procedure (which allow bypassing of the P-4/564°F FWIS) performed prior to Callaway Plant using that procedure to shut down the reactor for their upcoming refueling outage. The attached document provides the justification for this request as well as some less eminent issues which need to be looked into.

A Senior Reactor Operator (SRO) at Callaway Plant (Pat Shannon) wrote a condition report (CARS 200703001) in March 2007 questioning whether or not the plant's Technical Specifications allowed the P-4/564°F FWIS to be bypassed in MODEs 1 & 2. Because this condition report was written just days prior to Refueling Outage 15, plant management pressured the Senior Reactor Operator to withdraw his condition report. Because the condition report was deleted prior to it being sent to the plant's Screening Committee, it does not appear in the Callaway Action Request System's database;

however, I have a hard copy of the original report.

Enclosed with the attached letter is some background information regarding this issue. Included in the enclosure are some internal Callaway Plant emails concerning the plant's decision to allow bypassing the P-4/564°F FWIS in MODEs 1 & 2. From the emails it is apparent that there was much discussion regarding the decision of whether or not the plant's Technical Specifications allowed this safety function to be bypassed. The decision by Ameren to not pursue a change to Callaway Plant's Technical Specifications was a conscious decision by its Licensing Department. I am requesting that the US NRC review this decision and determine whether or not it is their opinion that a change to Callaway Plant's Technical Specifications is needed.

As a former submarine officer, I assume you are familiar with the following quote from Admiral Rickover:  
*A major flaw in our system of government, and even in industry, is the latitude allowed to do less than is necessary. Too often officials are willing to accept and adapt to situations they know to be wrong. The tendency is to downplay problems instead of actively trying to correct them.*

I believe that if you choose to look into this issue, you will find that the tendency to "downplay problems instead of actively trying to correct them" was not only present within Ameren when they consciously chose not to revise their Technical Specifications prior to blocking P-4/564°F in MODE 1, but is also present in our own Region IV where they have allowed Callaway Plant to conduct practices, for which they cited Wolf Creek, because Ameren was able to get a less than adequate safety evaluation past NRR in the mid-1990s (a safety evaluation which only addressed bypassing the P-4/564°F FWIS in MODE 3 and was silent on MODEs 1 & 2).

I've copied Missouri legislator Jeanette Oxford on this email and the attached 10CFR2.206 Request. Representative Oxford has been assisting me with getting Safety Culture issues addressed at Callaway Plant, and she is also concerned with ensuring the ratepayers in the State of Missouri are not unnecessarily burdened with operating expenses stemming from poor stewardship of generating facilities (although the Wolf Creek Nuclear Operating Company is in Kansas, there may be some Missourians in the Kansas City area who fall into WCNOG's rate base since it is partially owned by Kansas City Power & Light). The Citizen's Utility Ratepayer Board in Kansas may be interested in the outcome of this request since this issue obviously concerns their ratepayers. It is my opinion that Callaway Plant has not been meeting Technical Specification 3.3.2; however, if I am wrong about Callaway Plant, then it is my opinion that Wolf Creek unnecessarily incurred expenses responding to the errors of NRC inspectors in 2009 and 2010. These expenses included protesting a noncited violation (NCV 05000482/2009004-04), writing and revising a Licensee Event Report (LER 482-2009-009, revisions 0 and 1), and processing a Technical Specification amendment (LA 194).

V/r,

Larry

Lawrence S. Criscione  
(573) 230-3959

*Human experience shows that people, not organizations or management systems, get things done.*

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From: Mohan.Thadani@nrc.gov  
To: lscriscione@hotmail.com; James.Polickoski@nrc.gov  
Date: Tue, 6 Sep 2011 08:19:07 -0400  
Subject: RE: P-4/564°F FWIS at Wolf Creek and Callaway Plant

Larry:

I have not seen an amendment request, similar to the subject Wolf Creek Amendment, for Callaway Plant, Unit 1.

Mohan

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**From:** Lawrence Criscione [mailto:lscriscione@hotmail.com]  
**Sent:** Friday, September 02, 2011 8:27 PM  
**To:** Thadani, Mohan; Polickoski, James  
**Subject:** P-4/564°F FWIS at Wolf Creek and Callaway Plant

Jim/Mohan,

Please see the attached document (ML110550846) concerning the P-4/564°F FWIS at Wolf Creek.

Both Wolf Creek and Callaway Plant have a ESFAS feature wherein a Feed Water Isolation Signal is generated under the following conditions:

1. The reactor trip breakers are open (as read by permissive P-4) with P-4 not reset

AND

2. Reactor Coolant Temperature less than 564°F (Lo-Tavg).

On April 13, 2010 Wolf Creek Nuclear Operating Company a request (ML101100391) to amend its operating license such that the P-4/564°F FWIS was no longer required during MODE 3.

On March 30, 2011 we approved Wolf Creek's requested amendment (ML110550846).

To your knowledge, has Callaway Plant submitted a similar amendment? That is, to your knowledge, do the Technical Specifications at Callaway Plant allow it to block the P-4/564°F FWIS (function 8.a) during MODE 3?

Larry

Lawrence S. Criscione  
(573) 230-3959

January 8, 2012

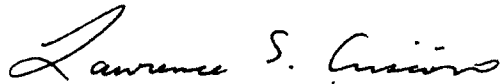
1412 Dial Court  
Springfield, IL 62704

Bill Borchardt  
Executive Director of Operations  
United States Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Mr. Borchardt:

Please accept the enclosure as a supplement to my October 7, 2011 10CFR2.206 petition..

Very respectfully,

A handwritten signature in cursive script that reads "Lawrence S. Criscione".

Lawrence S. Criscione, PE  
(573) 230-3959

Enclosure (1)

**Supplement to October 7, 2011 10CFR2.206 Request  
Regarding Blocking of the P-4/LoTavg  
Feedwater Isolation Signal (FWIS) at Callaway Plant**

**§1. Background**

In 1996, Callaway Plant originated an internal modification package (CMP 96-1016A) to install bypass switches around the P-4/564°F FWIS so that, when plant evolutions desired this signal to be bypass, the signal could be bypassed by use of installed switches instead of by installing jumpers. This was a wise modification. Installing jumpers on engineered safety features always involves some amount of risk of human error that is not present during the operation of an installed switch.

As part of the implementation of CMP 96-1016A, Union Electric (Ameren's predecessor) applied to the US NRC for a change to their Technical Specifications on August 8, 1997. This application was later supplemented on November 10, 1997 and approved as License Amendment number 126 (LA126) on April 23, 1998. The approval letter is located in the Agencywide Documents Access and Management System (ADAMS) as ML021640348. Enclosure 2 of this letter (the safety evaluation for LA 126 conducted by the Office of Nuclear Reactor Regulation) is included on pp. 40-42 of the Enclosure to my October 7, 2011 10CFR2.206 petition.

**§1.2. Paragraph 2.4 of the Safety Evaluation to LA 126**

The full text of paragraph 2.4 can be seen on p. 6 below. Only the sentences of interest are included in the excerpt below:

*The Bases for Functional Unit 11.b, Reactor Trip P-4, in Table 3.3-3 would be revised to add a note allowing the feedwater isolation function on P-4 (reactor trip and bypass breakers open) coincident with low Tavg (Tavg ≤ 564°F) to be blocked... ..The licensee has proposed to install a bypass switch to block this signal during startup and shutdown evolutions with Tavg ≤ 564°F just prior to opening the reactor trip breakers. The feedwater isolation function would be restored by manually defeating the bypass prior to entering MODE 2. This change is acceptable.*

Note the phrase in the excerpt above “*The licensee has proposed to install a bypass switch*”. If this Safety Evaluation was limited to the mere installation of the bypass switch, then it is acceptable. That is, the Safety Evaluation demonstrates why the bypass switch is desired and the acceptability of how it might be used. However, if this Safety Evaluation is to also allow the use



of this bypass switch, then it is unacceptable since it does not contain provisions for changing the plant's Technical Specifications.

A reactor plant's Technical Specifications cannot be overridden by a change to the Bases document. The note referred to in the first sentence of the excerpt needed to be contained in the Technical Specifications (as was done in LA 194 for Wolf Creek where a note was added to Table 3.3.2-1 on page 3.3-35 of the plant's Technical Specifications), not in the Bases.

Page 5 of the Adobe version of LA 126 is included in this supplement on page 4. This is the page that lists what pages of the Callaway Plant Technical Specifications and Bases were changed as a result of LA 126. Note that the only thing added to the Technical Specifications Bases during LA 126 was on page B 3/4 3-3. Page B 3/4 3-3 is found on page 22 of the Adobe version of LA 126 and is included in this supplement on page 5. Note the only revision bar is to the right of the second and third lines of the paragraph on P-4. It appears the revision made during LA 126 was the addition of the parenthetical phrase:

*(may be manually blocked since this function is not required by the safety analyses)*

I assume that the addition of the above parenthetical phrase is what Ms. Cabbage is referring to in paragraph 2.4 of her Safety Evaluation to LA 126 when she states that "*The Bases for Functional Unit 11.b, Reactor Trip P-4, in Table 3.3-3 would be revised to add a note allowing the feedwater isolation function on P-4 (reactor trip and bypass breakers open) coincident with low Tavg (Tavg ≤ 564°F) to be blocked*".

Note that the above parenthetical phrase does not contain any qualifiers as to under what conditions the P-4/564°F FWIS might be blocked. That is, per a literal reading of the parenthetical phrase, the P-4/564°F FWIS can be blocked whenever desired, no matter what conditions are occurring. It does not contain any indication that temperature must be at or below 564°F. It does not contain any indication that a startup or shutdown evolution is in progress and the plant and has reached the point just prior to opening the reactor trip breakers. It does not contain any indication that the P-4/564°F FWIS must be restored prior to entering MODE 2.

Also please note that, in my opinion, paragraph 2.4 of the Safety Evaluation to LA 126 does not evaluate whether or not the P-4/564°F FWIS can be manually blocked whenever it is desired to do so. The way I read this paragraph is that the Safety Evaluation applies only when the P-4/564°F FWIS will be blocked under the following conditions:

- A startup or shutdown evolution is in progress and has reached the point just prior to opening the reactor trip breakers
- Tavg is less than or equal to 564°F

- The feedwater isolation function will be restored by manually defeating the bypass prior to entering MODE 2

### **§1.3. Two Wrongs Don't Make a Right**

License Amendment 126 was not properly processed in that the parenthetical phrase added to the Technical Specifications Bases (see discussion in the preceding section) was neither adequate to restrict the operation of the bypass switch to within the boundaries of paragraph 2.4 of the Safety Evaluation nor was it adequate to allow operation of the bypass switch in MODEs 1-3 since the change was to the Bases and not the actual Technical Specifications. The Office of Nuclear Reactor Regulation erred in approving LA 126 and as a result Callaway Plant is in violation of their Technical Specifications whenever they use the bypass switch which was installed per LA 126 to allow blocking of the P-4/564°F FWIS. However, two wrongs do not make a right. That is, an error on the part of the Nuclear Regulatory Commission does not negate an error on the part of the licensee. The licensee must follow their Technical Specifications as written regardless of any confusion generated by a poorly submitted license amendment which was approved by NRR on April 23, 1998. The NRC needs to cite Callaway Plant for violating their Technical Specifications for every instance when the P-4/564°F FWIS was bypassed in MODEs 1, 2 or 3.

For those who might be sympathetic to Callaway Plant because an error was made on the NRC's part when NRR approved LA 126, I would note that Callaway Plant had ample opportunity to recognize the error during the discussions which occurred in 2006 and 2007 (see pages 2-7, 9, and 13-39 of the Enclosure to my October 7, 2011 petition). Additionally, Callaway Plant had ample opportunity to recognize and correct the error following the non-cited violation that was issued to Wolf Creek in 2009 (see pages 8-9 and 47-53 of the Enclosure to my October 7, 2011 petition). Callaway Plant is guilty of willfully capitalizing on NRR's mistake and the NRC cannot allow that to go by unaddressed.

### **§2. Additional Requests per 10CFR2.206**

In addition to the actions I requested in my October 7, 2011 10CFR2.206 petition, I request the Technical Specifications Branch (NRR/DSS/TSB) determine if LA126 to the Callaway Plant operating license permits Callaway Plant to bypass the P-4/564°F FWIS during MODEs 1, 2 and/or 3.

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. NPF-30

DOCKET NO. 50-483

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain marginal lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

<u>REMOVE</u>	<u>INSERT</u>
3/4 3-17	3/4 3-17
---	3/4 3-17a
3/4 3-18	3/4 3-18
3/4 3-20	3/4 3-20
3/4 3-21	3/4 3-21
---	3/4 3-24(a)
---	3/4 3-24(b)
3/4 3-25	3/4 3-25
3/4 3-28	3/4 3-28
3/4 3-35	3/4 3-35
---	3/4 3-35a
3/4 3-36	3/4 3-36
3/4 3-37	3/4 3-37
B 3/4 3-3	B 3/4 3-3

This document is found in NRC ADAMS as ML021640348. This is page 5 of the Adobe version of that ADAMS document. This is the list of pages that were changed as a result of LA 126. Note that the only page of the Bases listed as being changed is B 3/4 3-3. It appears that the Bases change referred to in paragraph 2.4 of this license amendment (page 24 of ML021640348) is the change which was made to page B 3/4 3-3.

## INSTRUMENTATION

### BASES

#### Engineered Safety Features Actuation System Interlocks

The Engineered Safety Features Actuation System interlocks perform the following functions:

P-4 Reactor tripped - Actuates Turbine trip, closes main feedwater valves on  $T_{avg}$  below setpoint (may be manually blocked since this function is not required by the safety analyses), prevents the opening of the main feedwater valves which were closed by a Safety Injection or High Steam Generator Water Level signal, allows Safety Injection block so that components can be reset or tripped.

Reactor not tripped - prevents manual block of Safety Injection.

P-11 On increasing pressure P-11 automatically reinstates Safety Injection actuation on low pressurizer pressure and low steam line pressure and automatically blocks steam line isolation on negative steam line pressure rate. On decreasing pressure, P-11 allows the manual block of Safety Injection on low pressurizer pressure and low steam line pressure and allows steam line isolation on negative steam line pressure rate to become active upon manual block of low steam line pressure SI.

#### 3/4.3.3 MONITORING INSTRUMENTATION

##### 3/4.3.3.1 RADIATION MONITORING FOR PLANT OPERATIONS

The OPERABILITY of the radiation monitoring instrumentation for plant operations ensures that: (1) the associated action will be initiated when the radiation level monitored by each channel or combination thereof reaches its setpoint, (2) the specified coincidence logic is maintained, and (3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance. The radiation monitors for plant operations senses radiation levels in selected plant systems and locations and determines whether or not predetermined limits are being exceeded. If they are, the signals are combined into logic matrices sensitive to combinations indicative of various accidents and abnormal conditions. Once the required logic combination is completed, the system sends actuation signals to initiate alarms or automatic isolation action and actuation of Emergency Exhaust or Control Room Emergency Ventilation Systems.

This document is found in NRC ADAMS as ML021640348. This is page 22 of the Adobe version of that ADAMS document. Note the revision bars to the right of the second and third lines of the paragraph concerning P-4. It appears the revision that was made to this page for LA 126 was the addition of the parenthetical phrase which begins on the second line and ends on the third.

## 2.2 New Steam Generator Level Low-Low Functional Unit

A new Functional Unit 5.d, Steam Generator (SG) Water Level Low-Low (for feedwater isolation only), would be added to Tables 3.3-3, 3.3-4, and 4.3-2. This change is more restrictive. The main feedwater isolation valve (MFIV) isolation on SG water level low-low isolation was added to the plant design to address a concern that AFW flow could be fed back through the MFW system instead of to the SGs under certain break conditions. This isolation signal is credited in the analyses for the loss of non-emergency AC power, loss of normal feedwater, and feedwater system pipe break events. This isolation signal was not included in the original TS, which were based on the Westinghouse Standard Technical Specifications (STS), because neither the STS at the time nor the current STS include this isolation signal. While this isolation signal had not previously been included in the TS, the licensee stated that they have always performed surveillances on this isolation signal consistent with other automatic actuation logic and actuation relays applicable in MODES 1-3. This change is acceptable.

## 2.3 Trip Time Delay Applicability

The applicable MODES in Table 3.3-3 for auxiliary feedwater (AFW) SG Water Level Low-Low Functional Units 6.d.1).c), Start Motor Driven Pumps Vessel Delta T (Power-1, Power-2), and 6.d.2).c), Start Turbine-Driven Pump Vessel Delta T (Power-1, Power-2), would be revised to delete MODE 3. Functional Unit 6.d.3) in Table 4.3-2 would also be revised to delete MODE 3. This function is used to change the trip time delays depending on power level. At reactor thermal power less than or equal to 10 percent, the maximum trip time delay is enabled, and the maximum trip time delay should always be enabled in MODE 3. This change is acceptable.

## 2.4 Feedwater Isolation on P-4/Low Tavg

The Bases for Functional Unit 11.b, Reactor Trip P-4, in Table 3.3-3 would be revised to add a note allowing the feedwater isolation function on P-4 (reactor trip and bypass breakers open) coincident with low Tavg ( $T_{avg} \leq 564^{\circ}\text{F}$ ) to be blocked. The reason for the change is to decrease unnecessary cycling of the MFIVs and AFW system which adversely impacts startup and shutdown evolutions. This feedwater isolation function provides backup protection for excessive cooldown events and is not credited in any FSAR analyses. The licensee has proposed to install a bypass switch to block this signal during startup and shutdown evolutions with  $T_{avg} \leq 564^{\circ}\text{F}$  just prior to opening the reactor trip breakers. The feedwater isolation function would be restored by manually defeating the bypass prior to entering MODE 2. This change is acceptable.

## 2.5 Conclusion

The staff has reviewed the licensee's proposed TS changes to revise the feedwater isolation ESFAS functions. Based on the review, the staff concludes that the proposed TS changes are acceptable.

This document is found in NRC ADAMS as ML021640348. This is page 24 of the Adobe version of that ADAMS document.