UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 20, 2011

Mr. Lawrence S. Criscione, PE
1412 Dial Court
Springfield, IL 62704

Dear Mr. Criscione:

Your letters (petitions) dated April 27 and 30, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML101200401 and ML101230100, respectively), addressed to Mr. William Borchardt, Executive Director for Operations, U.S. Nuclear Regulatory Commission (NRC) were referred to the Office of Nuclear Reactor Regulation, pursuant to Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR 2.206).

In your petition dated April 27, 2010, you requested that NRC issue an Information Notice (IN) to the licensees in the commercial nuclear power industry informing the licensees of abnormalities of a reactor shutdown at Callaway Plant, Unit 1, during the October 21, 2003 event.

In your petition dated April 30, 2010, you requested that NRC should consider revising the improved standard technical specifications (STSs) of all Westinghouse pressurized-water reactors and other types of reactors to reflect the lessons learned from the October 21, 2003, abnormal shutdown of Callaway Plant, Unit 1.

By letter dated May 27, 2010 (ADAMS Accession No. ML101380320), the NRC staff informed you that it had reviewed your requests and concluded that your submittals did not meet the key criterion for consideration of your petitions under 10 CFR 2.206 petition review process, because you did not ask NRC to take any enforcement-related action against the licensee, as required by the NRC's Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions." In the letter dated May 27, 2010, the NRC staff also informed you that it will continue to review your two requests as routine correspondence.

While the review of your request dated April 27, 2010, for issuance of an IN is still pending, the NRC staff has concluded that the October 21, 2003 event at Callaway Plant, Unit 1, in conjunction with reactivity events at other nuclear plants should be reported to the nuclear industry. An IN is in preparation for issuance. The NRC staff will provide you a copy of the IN when it is issued.

The NRC staff has completed its review of your letter dated April 30, 2010, requesting the NRC to modify the STSs. The NRC staff reviewed the request against the requirements of our regulation at 10 CFR 50.36, and the NRC staff positions in NUREG-1430, Revision 3.0, "Standard Technical Specifications, Babcock and Wilcox Plants," NUREG-1431, Revision 3.0, "Standard Technical Specifications, Westinghouse Plants," NUREG-1432, Revision 3.0, "Standard Technical Specifications, Combustion Engineering Plants," NUREG-1433, Revision 3.0, "Standard Technical Specifications, General Electric Plants BWR/4," and NUREG-1434, Revision 3.0, "Standard Technical Specifications, General Electric Plants BWR/6."

Based on the results of its review, the NRC staff concludes that, although the event on October 21, 2003, at the Callaway Plant, Unit 1, did not meet Limiting Condition for Operation (LCO) 3.4.2, "RCS [Reactor Coolant System] Minimum Temperature for Criticality," for approximately 10 minutes, the licensee correctly entered Technical Specification LCO 3.4.2, and followed the Required Actions, successfully bringing the RCS temperature back in conformance with the LCO within the completion time allowed by Condition A, Required Action A.1. In other words, the licensee's actions were consistent with the Callaway Plant, Unit 1, operating license.

In addition, the safety-related components and systems, other than the pre-existing condition of a loss of a safety-related inverter, required by technical specifications were available and operable during this incident. The NRC staff has also determined that plant operation, in accordance with the guidance in Revision 3.0 of NUREG–1431, NUREG-1432, NUREG-1433, and NUREG-1434, provides an adequate level of safety and, therefore, the modifications to the STS that you requested are not necessary.

A copy of the staff evaluation is enclosed. If you have any questions, please contact Mr. Mohan Thadani at (301) 415-1476 or e-mail at mohan.thadani@nrc.gov.

Sincerely,

Joseph G. Giitter, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
Staff Evaluation

cc w/encl: Distribution via Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

STAFF EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO APRIL 30, 2010, PETITION FILED PURSUANT TO 10 CFR 2.206

BY MR. LAWRENCE CRISCIONE

FACILITY OPERATING LICENSE NO. NPF-30

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 50-483

1.0 INTRODUCTION

By letter dated April 30, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101230100), Mr. Lawrence Criscione, petitioner, pursuant to Title 10 of the *Code of Federal Regulations* (CFR) 2.206, requested a revisions to standard technical specifications (STSs) of all Westinghouse pressurized-water reactors (PWRs) and consideration of modifying technical specifications (TSs) of other reactor designs. The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the petitioner's request against the requirements of Section 50.36, "Technical specifications," of 10 CFR and the NRC staff positions in NUREG-1430, Revision 3.0, "Standard Technical Specifications, Babcock and Wilcox Plants," NUREG-1431, Revision 3.0, "Standard Technical Specifications, Westinghouse Plants," and NUREG-1432, Revision 3.0, "Standard Technical Specifications, Combustion Engineering Plants," NUREG-1433, Revision 3.0, "Standard Technical Specifications, General Electric Plants BWR/4," and NUREG-1434, Revision 3.0, "Standard Technical Specifications, General Electric Plants BWR/6."

By letter dated April 30, 2010, the petitioner requested the following actions:

> Add a requirement to the "Reactivity" section of Westinghouse Improved Technical Specifications (ITS) requiring the following:
>
> 1. MODE 2 Descending is defined as entry into MODE 2 from MODE 1.
>
> 2. The reactor be in MODE 3 within 30 minutes of reaching MODE 2, Descending.

Enclosure

3. The reactor is not normally operated in MODE 2 after a down power from 100% power. That is, reactor power is not intentionally maintained in MODE 2 during a down power, but instead MODE 2 Descending is merely a transitional stage to get to MODE 3. If reactor power cannot be sustained above 5% power, then the reactor should be shut down. (Holding power low in MODE 1, such as while equipment repairs are being effected, is acceptable).

4. The control banks should be fully inserted within 15 minutes of reaching MODE 3.

5. Exceptions to any of the above items are allowed only for pre-planned tests and surveillances.

If appropriate, consider revising the Technical Specifications of plants which were designed by other vendors (e.g. General Electric BWRs [Boiling-Water Reactors], Babcock & Wilcox PWRs, Combustion Engineering PWRs).

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses (OLs) to include TSs as part of the license. The regulations in 10 CFR 50.36 require that each OL issued by the Commission contains TSs that set forth the limits, operating conditions, and other requirements imposed upon facility operation for the protection of public health and safety.

TSs are a part of the OL for a plant, and are derived from the plant safety analyses included in the safety analysis report. Such analyses help to determine the limiting safety system settings, design specifications, and in conjunction with the criterion stated in 10 CFR 50.36(c)(2)(ii), the limiting conditions for operation (LCOs) for safety-related components and systems to protect public health and safety. TS LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. In other words, LCOs define the minimum conditions in which the NRC considers it acceptable to operate the plant. When a plant does not meet an LCO, TS required actions establish those remedial measures that must be taken within specified completion times. There are two basic types of required actions. The first type of required action specifies a time limit in which the LCO must be met. This time limit is the completion time to restore an inoperable system or component to operable status or to restore variables to within specified limits. The second type of required action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the completion time. The first type of required action provides a reasonable time to return a system or component to operable status or to restore variables to within specified limits. The second type of required action provides an acceptable level of safety for continued operation. When complying with the TS required action(s), a plant is considered to be operating in a safe condition.

In general, the plant procedures provide operational guidance and specific actions required to maintain plant conditions within limits established in the plant TSs and by other

license/regulatory requirements. The regulations in 10 CFR 50.36 do not provide requirements for plant operating procedures. TSs are not part of the plant operating procedures.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the petitioner's request and determined the following:

- In the case of Callaway Plant, as cited in the petitioner's request, TSs were not violated. In the letter dated April 30, 2010, the petitioner stated,

  > This drop in average coolant temperature resulted in the reactor being operated below the Minimum Temperature for Critical Operation (551°F) for approximately 10 minutes (between 10:00 am and 10:13 am) and also resulted in the letdown system isolating on low pressurizer level at 10:00 am.
  >
  > At 10:13 am, the operators tripped the main turbine in order to allow recovery of average coolant temperature to above the Minimum Temperature for Critical Operation.
  >
  > Between 10:13 am and 10:14 am, average coolant temperature rose from 552°F to 555°F...

- Although the plant did not meet LCO 3.4.2, "RCS [Reactor Coolant System] Minimum Temperature for Criticality," for approximately 10 minutes, the licensee entered TS LCO 3.4.2 correctly and followed the Required Actions, successfully bringing the RCS temperature back in conformance with the LCO within the completion time allowed by Condition A, Required Action A.1. In other words, the licensee's actions were in accordance with the plant's OL.

- In addition, safety-related components and systems (other than the pre-existing condition of a loss of a safety-related inverter) required by TSs were available and operable during this event; therefore, an adequate level of safety for continued operation was maintained.

- The NRC staff concludes that plant operation in accordance with Revision 3.0 of the STSs (NUREGs 1431–1434) provides an adequate level of safety and, therefore, the modifications to the STSs requested by the petitioner are not necessary.

Based on the above, the NRC concludes that the LCO is sufficient to maintain an adequate level of safety and no change to STS is necessary to maintain the requirements of 10 CFR 50.36.

4.0 CONCLUSION

Based on the above, the NRC concludes that (1) the licensee's actions were in accordance with the conditions of the operating license, and (2) Revision 3.0 of STS (NUREGs 1431-1434) provides an adequate level of safety and no modification to STS is necessary to maintain the requirements of 10 CFR 50.36.

Principal Contributor: K. Bucholtz

Date: January 20, 2011

Based on the results of its review, the NRC staff concludes that, although the event on October 21, 2003, at the Callaway Plant, Unit 1, did not meet Limiting Condition for Operation (LCO) 3.4.2, "RCS [Reactor Coolant System] Minimum Temperature for Criticality," for approximately 10 minutes, the licensee correctly entered Technical Specification LCO 3.4.2, and followed the Required Actions, successfully bringing the RCS temperature back in conformance with the LCO within the completion time allowed by Condition A, Required Action A.1. In other words, the licensee's actions were consistent with the Callaway Plant, Unit 1, operating license.

In addition, the safety-related components and systems, other than the pre-existing condition of a loss of a safety-related inverter, required by technical specifications were available and operable during this incident. The NRC staff has also determined that plant operation, in accordance with the guidance in Revision 3.0 of NUREG–1431, NUREG-1432, NUREG-1433, and NUREG-1434, provides an adequate level of safety and, therefore, the modifications to the STS that you requested are not necessary.

A copy of the staff evaluation is enclosed. If you have any questions, please contact Mr. Mohan Thadani at (301) 415-1476 or e-mail at mohan.thadani@nrc.gov.

Sincerely,

/RA/

Joseph G. Giitter, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
Staff Evaluation

cc w/encl: Distribution via Listserv

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LPL4 Reading
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RidsNrrMailCenter Resource
RidsRgn4MailCenter Resource
KBucholtz, NRR/DIRS/ITSB

ADAMS Accession Nos. Pkg. ML103410057, Incoming ML101620602, Response ML103410070 *SE input

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DIRS/ITSB/BC	NRR/DORL/LPL4/BC	NRR/DORL/D
NAME	MThadani	JBurkhardt	RElliott*	MMarkley	JGiitter
DATE	12/20/10	12/16/10	9/14/10	1/14/11	1/20/11

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