

November 26, 2012

MEMORANDUM TO: Gary L. Shear, Deputy Director
Division of Reactor Projects
Region III

FROM: Sher Bahadur, Deputy Director */RA/*
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: FINAL RESPONSE TO TASK INTERFACE AGREEMENT 2012-06,
CLINTON POWER STATION TECHNICAL SPECIFICATION 3.6.4.3
COMPLIANCE DURING OPERATIONS WITH THE POTENTIAL FOR
DRAINING THE REACTOR VESSEL

By letter dated February 29, 2012 (Agencywide Documents Access and Management System Accession No. ML12061A068), the U.S. Nuclear Regulatory Commission, Region III Office, requested assistance from the Office of Nuclear Reactor Regulation (NRR) in determining whether Clinton Power Station (Clinton) violated Technical Specification (TS) 3.6.4.3, Action C, while performing Operations with the Potential to Drain the Reactor Vessel (OPDRV) with one Standby Gas Treatment (VG) subsystem inoperable. This concern was identified during baseline inspection of refueling outage activities and was characterized as an unresolved item in NRC Integrated Inspection Report 05000461/2011-005.

Region III requested NRR's technical assistance to address the above issue by providing answers to the following questions:

1. With one VG subsystem inoperable, does TS 3.0.4.a require that the Clinton Power Station licensee enter TS 3.6.4.3, Condition C, prior to commencing OPDRVs?
2. Did the Clinton Power Station licensee violate TS 3.6.4.3, Condition C when it exited LCO [limiting condition for operation] 3.6.4.3, Condition C.1, by securing the 'B' subsystem of VG and did not complete Conditions C.2.1 and C.2.2?

The NRR staff has reviewed the issue and determined that Clinton did not violate TS 3.6.4.3, Action C, while performing OPDRV with one VG subsystem inoperable. The NRR staff position is documented in the enclosed evaluation.

Enclosure:
As stated

CONTACT: Holly D. Cruz, DPR/PLPB
(301) 415-1053

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TASK INTERFACE AGREEMENT 2012-06

CLINTON POWER STATION TECHNICAL SPECIFICATION 3.6.4.3 COMPLIANCE DURING OPERATIONS WITH THE POTENTIAL FOR DRAINING THE REACTOR VESSEL

1.0 INTRODUCTION

By letter dated February 29, 2012 (Agencywide Documents Access and Management System Accession No. ML12061A068), the U.S. Nuclear Regulatory Commission, Region III Office, requested assistance from the Office of Nuclear Reactor Regulation (NRR) in determining whether Clinton Power Station (Clinton) violated Technical Specification (TS) 3.6.4.3, Action C, while performing Operations with the Potential to Drain the Reactor Vessel (OPDRV) with one Standby Gas Treatment (VG) subsystem inoperable. This concern was identified during baseline inspection of refueling outage activities and was characterized as an unresolved item in NRC Integrated Inspection Report 05000461/2011-005.

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2.0 BACKGROUND

During a refueling outage on December 6, 2011, the licensee performed OPDRV activities while in Mode 4, Cold Shutdown. OPDRV activities are a specified condition in the applicability of LCO 3.6.4.3 for the Standby Gas Treatment (SGT) System. LCO 3.6.4.3 requires two SGT subsystems to be operable. Initiating action to perform OPDRV activities while in Mode 4 would result in the requirement for both SGT subsystems to be operable prior to commencing OPDRV activities. On December 6, 2011, only the 'B' SGT subsystem was operable due to the 'A' SGT subsystem being discovered to be inoperable on December 5, 2011, during the performance of a division 1 diesel generator integrated surveillance test. In order to perform OPDRV activities prior to restoring the 'A' SGT subsystem to an operable status, the licensee chose to apply the TS 3.0.4.a allowance for mode changes with inoperable TS equipment. TS 3.0.4.a states:

"When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time."

If the licensee was to commence OPDRV activities, TS 3.6.4.3 would not be met since only one SGT subsystem was operable.

ENCLOSURE

Required Action A.1 of TS 3.6.4.3 Condition A for one SGT subsystem inoperable requires the inoperable subsystem to be returned to operable status within 7 days. If this Required Action cannot be met during the 7 day completion time with OPDRVs in progress, then Required Action C.1 of Condition C for the Required Action and associated Completion Time of Condition A not met during OPDRVs would apply. Required Action C.1 would require immediate action to place the operable SGT subsystem in operation or following the requirements of Required Action C.2.2 to immediately initiate actions to suspend OPDRVs. In support of OPDRV activities, on December 6, 2011, at 12:06 am, the licensee placed the operable 'B' SGT subsystem into service. At 1:15 a.m., on-shift operations personnel completed CPS 3007.01 C005, "Operations with a Potential for Draining the Reactor Vessel Checklist," Revision 2a, to verify compliance with TSs prior to entering the OPDRV operational condition.

On December 6, 2011, at 9:53 a.m., with SGT subsystem 'B' in operation, the licensee commenced OPDRV activities and, according to control room logs, entered TS LCO 3.6.4.3 Required Action A.1 to restore the inoperable SGT subsystem to operable within 7 days and also entered Required Action C.1 to place the operable SGT subsystem in operation immediately. Later that day, at 2:37 p.m., operators secured the 'B' SGT subsystem but continued to perform OPDRV activities. Control room logs stated that the 'B' SGT subsystem was secured; but operators did not document exiting TS 3.6.4.3 Required Action C.1, nor did they describe the basis for making the decision to secure the 'B' SGT subsystem. Later the same day at 7.45 p.m., the licensee exited the OPDRV operational condition, thereby making the requirements of TS 3.6.4.3 no longer applicable. Upon inquiry by the NRC inspectors about the reasons for securing SGT 'B' during OPDRV conditions and while the requirements of TS 3.6.4.3 Required Action C.1 applied, the shift manager informed the NRC inspectors that the decision to secure SGT 'B' was made because open primary containment penetrations with SGT in service were adversely impacting the operation of the containment ventilation system. The inspectors were also informed that in order to perform welding within the secondary containment boundary, procedure CPS 3319.01, "Standby Gas Treatment (VG)," Revision 16 required an engineering evaluation to be performed. The same procedure also stated that welding and grinding have no detrimental effect on the efficiency of SGT charcoal absorbers. No reason for securing SGT 'B' was ever documented in the control room logs.

The NRC inspectors understood that the licensee entered Required Action C.1 simultaneously with Required Action A.1 in order to apply LCO 3.0.4.a to commence OPDRVs. The inspectors noted that the control room log entry would imply that the licensee was required to comply with both Required Actions A.1 and C.1 because Required Action C.1 allowed indefinite entry with one SGT subsystem in operation. The inspectors questioned whether Clinton Power Station could only exit Condition C by restoring the inoperable SGT subsystem or by performing Required Actions C.2.1 and C.2.2. There was no documentation in the control room logs explaining the licensee's determination that it was not required to have entered Required Action C.1 when it made the decision to secure the 'B' SGT subsystem. The licensee's position that it was not required to enter Condition C was not documented until after the licensee had initiated AR 01298874, "NRC Question Concerning Use of ITS 3.0.4."

For the reasons discussed above, the NRC inspectors questioned whether the licensee complied with its TSs when LCO 3.6.4.3, Condition C 1 was exited by securing the 'B' SGT subsystem with completing Required Actions C.2.1 and C.2.2.

Licensee's Position

In response to inspectors' questions regarding this sequence of events, the licensee initiated AR 01298874, "NRC Question Concerning Use of ITS 3.0.4." The action request stated that the decision to secure SGT 'B' was made in order to utilize the 7 day completion time provided by LCO 3.6.4.3 Condition A to restore the inoperable SGT subsystem to operable status. The licensee concluded that although Required Action C.1 was entered, it was not necessary to do so, and this therefore permitted exiting Required Action C.1 until the 7 day completion time of Condition A had expired. The licensee concluded that, based upon this Q&A and the existing language in the LCO and the LCO Bases, the actions taken on December 6, 2011, were not a violation of TS.

3.0 REGULATORY EVALUATION

The regulations under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.36(c)(2), *Limiting conditions for operation*. (i) state:

Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

LCO 3.0.2 governs plant operations when operating in the Modes or other specified condition of Applicability Statement of a Specification, and establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met.

The TS 3.6.4.3 Bases for Required Action C.1 explains the basis for permitting operations for an unlimited period of time during OPDRVs. The Bases (in the pertinent part) state, "This Required Action ensures that the remaining subsystem is OPERABLE, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected."

The Clinton LCO 3.0.4.a TS establishes limitations on transitions between Modes or other specified conditions of the Applicability Statement. It allows, under certain conditions, the plant to enter a Mode or specified condition when plant conditions are such that the requirements of an LCO would not be met. Specifically, the LCO 3.0.4.a states:

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made when the associated ACTIONS to be entered permit continued operation in the Mode or other specified condition of the Applicability for an unlimited period of time.

Compliance with Required Actions that permit continued operation of the unit for an unlimited period of time in a mode or other specified condition in the Applicability provides an acceptable level of safety for continued operation. This is without regard to the status of the unit before or after the transition to the MODE or specified condition stated in the Applicability.

4.0 TECHNICAL EVALUATION AND CONCLUSION

Based on its review of Task Interface Agreement 2012-06, the NRR staff finds the following:

Question 1:

With one VG subsystem inoperable, does TS 3.0.4.a require that the Clinton Power Station licensee enter TS 3.6.4.3, Condition C, prior to commencing OPDRVs?

The NRR staff concludes no to this question for the reasons that follow.

Note: The NRR staff reviewed this question from three perspectives: 1) the historical development of LCO 3.0.4.a, 2) the current use and application rules for TSs, and 3) from a safety standpoint.

History of LCO 3.0.4.a

Prior to the issuance of Generic Letter (GL) 87-09, LCO 3.0.4 stated the opposite of what it allows today. Specifically, it stated that you could not transition into the Mode of Applicability with inoperable equipment. Exceptions to TS 3.0.4 were included in the individual LCOs for those systems that could transition in Mode when inoperable. Based on the structure of the TSs prior to GL 87-09, a licensee who had an exception to TS 3.0.4 could make the Mode transition, and would then be required to comply with the Action Requirements.

GL 87-09 addressed unnecessary restrictions on mode changes by TS 3.0.4 (LCO 3.0.4.a) and inconsistent application of exceptions to it. Specifically, GL 87-09 stated:

With respect to unnecessary mode changes Specification 3.0.4 (which prohibited mode change while relying on Action requirements) unduly restricts facility operation when conformance with Action requirements provides an acceptable level of safety for continued operation. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operation mode or other specified condition of operation should be permitted in accordance with the Action Requirements. The solution also resolved the problem of inconsistent application of exceptions to Specification 3.0.4 (a) which delays startup under conditions in which conformance to the Action Requirements established an acceptable level of safety for unlimited continued operation of the facility; and (b) which delays a return to power operation when the facility is required to be in a lower mode of operation as a consequence of other Action Requirements.

The GL further stated that it was “not the staff’s intent that the revision of Specification 3.0.4 should result in more restrictive requirements for individual specifications.” From this statement, the NRR staff concludes that there was no expectation that licensees had to do anything differently when using LCO 3.0.4.a to transition modes than they did when they had an exception to LCO 3.0.4 prior to the GL 87-09 revision.

Control room logs showed that the licensee intentionally entered LCO 3.6.4.3 Required Actions A.1 and C.1 together. The TSs usage rules do not prohibit entering multiple Conditions when relying on the allowance of LCO 3.0.4.a for transitioning Modes or other specified conditions. The licensee's application of LCO 3.0.4.a is consistent with GL 87-09 which did not seek to alter TS requirements, only to establish a generic allowance to provide relief for unnecessary constraints to startup when compliance with TS Action requirements would permit unlimited operation in the Mode or other specified condition to be entered.

Additional information on LCO 3.0.4.a was provided in TIA 2009-005. TIA 2009-005 states that the bases for LCO 3.0.4 include the caution that operators should not fail to exercise the good practice of restoring systems or components to operable status before entering an associated MODE or other specified condition in the Applicability, and that completing the TS required actions to be entered before conducting a mode transition with inoperable equipment establishes the basis for continued operation. However, the completion of those actions is not a requirement for compliance with LCO 3.0.4a. It should be emphasized that, to implement the mode transition allowance of LCO 3.0.4a, licensees should have a reasonable expectation that the TS required actions will be completed within their specified completion times.

Use and Application Rules for TS

As stated in Question 1 above, LCO 3.0.2 governs plant operations and establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The 7 day Completion Time in TS 3.6.4.3, Required Action A.1 applies per LCO 3.0.2 upon discovery of an inoperable SGT system while operating in the Modes or other specified conditions in the LCO Applicability, which includes OPDRV operations. LCO's do not apply when operating outside their associated Modes of Applicability. Accordingly, Clinton TS 3.6.4.3 Required Action A.1 would apply upon entry into the OPDRV operational condition when utilizing the allowance of LCO 3.0.4.a for transitioning into Modes or other specified conditions. The format and usage rules of technical specifications do not prohibit application of LCO 3.0.2 under these circumstances.

The NRR staff concludes that Clinton complied with the allowances of LCO 3.0.4.a and LCO 3.0.2 as LCO 3.0.2 only applies once the licensee transitions into an applicable Mode or specified condition (i.e., the LCO 3.6.4.3 OPDRV Applicability Statement specified condition). Once the licensee enters the applicable mode (i.e., began conducting OPDRV activities), the licensee must then comply with the Required Actions in accordance with LCO 3.0.2.

Safety

In considering the TS structure from a safety perspective, the NRR staff concludes that there is no difference in terms of risk to public health and safety between the licensee following the LCO Required Actions upon entry into the Applicable Mode and the licensee discovering after already operating in the Applicable Mode that they do not meet the LCO. In both cases, the licensee would have to follow the same Required Actions, and would have the same Completion Time to comply with the Required Actions. However, there would be a safety benefit to the licensee complying with the Required Actions sooner than allowed by TS because, in this case, they would establish right away that the other SGT system was operable prior to commencing OPDRV activities. By waiting the full 7 days, the OPDRV may be completed and the LCO

exited without the licensee ever establishing the operability of the other SGT system. It is noted, however, that the licensee is not required to complete the Required Actions prior to entry into the Mode of Applicability or prior to the expiration of the Completion Time once entering the Mode of Applicability.

This position does not address safety concerns associated with the licensee's decision-making and actions to start and shut down the SGT system before the seven day Completion Time of TS 3.6.4.3 Required Action A.1 expired which may be indicative of performance issues that are not within the scope of this TIA response.

Question 1 Conclusion:

Entry into Clinton TS 3.6.4.3 Required Action A.1 for a 7 day period to restore the inoperable subsystem to operable status applies when operating in a Mode or other specified condition of the LCO and also applies upon transition into OPDRVs under the allowances of LCO 3.0.4.a because the Required Actions in TS 3.6.4.3 establish the basis to permit continued operation while relying on Action requirements under 10 CFR 50.36(c)(ii)(A) and therefore affords an acceptable level of safety. The NRR staff concludes no to this question.

Question 2:

Did the Clinton Power Station licensee violate TS 3.6.4.3, Condition C when it exited LCO 3.6.4.3, Condition C.1, by securing the 'B' subsystem of VG and did not complete Conditions C.2.1 and C.2.2?

The NRR staff concludes no to this question.

Question 2 Conclusion:

No, the Clinton Power Station licensee did not violate TS 3.6.4.3, Condition C when it exited LCO 3.6.4.3, Condition C.1 by securing the 'B' subsystem of SGT and did not complete Conditions C.2.1 and C.2.2 because the seven day Required Action A.1 Completion Time had not expired.

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Date: November 26, 2012