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May 7, 2013

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**Example D47 - Valves – Active Safety–Related Function ITAAC Closure
Notification**

XX/YY/ZZZZ (Date)

To: NRC

From: {Name of Licensee}
{Site Name and Unit #}
{Docket #}

Subject: Completion of ITAAC 2.1.-02.12a.i

The purpose of this letter is to notify the U.S. Nuclear Regulatory Commission (NRC) in accordance with 10 CFR 52.99(c)(1) of the completion of {Site Name and Unit #} Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item ~~2.1.02.12a.i 2-1 02.12a.i~~ for verification that a test report exists and concludes that each motor-operated valve (MOV) in the automatic depressurization system of the Reactor Coolant System changes position as indicated in Table 2.1.2-1 of the Design Control Document (DCD) Tier 1 under design conditions. The closure process for this ITAAC is based on the guidance described in NEI 08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52," (Reference 1) as accepted in NRC Regulatory Guide (RG) 1.215, "Guidance for ITAAC Closure under 10 CFR Part 52" (Reference 2).

ITAAC Statement

Design Commitment:

The automatic depressurization valves identified in Table 2.1.2-1 perform an active safety-related function to change position as indicated in the table.

Inspections, Tests, Analyses:

- i) Tests or type tests of motor-operated valves will be performed that demonstrate the capability of the valve to operate under its design conditions.*

Acceptance Criteria:

- i) A test report exists and concludes that each motor-operated valve changes position as indicated in Table 2.1.2-1 under design conditions.*

ITAAC Determination Basis

February 16, 2012

Multiple ITAAC are performed to demonstrate that the automatic depressurization valves identified in ~~Design Control Document-DCD Tier 1~~, Table 2.1.2-1 perform an active safety-related function to change position as indicated in the table. The subject ITAAC requires tests or type tests of ~~MOVsmotor-operated valves~~ to be performed to demonstrate the capability of the valve to operate under its design conditions.

The automatic depressurization MOVs identified in DCD Tier 1, Table 2.1.2-1 have been qualified in accordance with the provisions of ASME Standard QME-1-2007, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants," (Reference 3) as accepted in Revision 3 (September 2009) to RG 1.100, "Seismic Qualification of Electrical and Active Mechanical Equipment and Functional Qualification of Active Mechanical Equipment for Nuclear Power Plants" (Reference 4).

The qualification process included seismic, end loading, functional, environmental, and sealing capability as applicable to each automatic depressurization MOV identified in DCD Tier 1, Table 2.1.2-1. As specified in ASME QME-1-2007, Section QV-8100, the qualification documentation is intended to verify that each valve assembly is qualified to perform its designated function when used in its intended service. As stated in ASME QME-1-2007, qualification is substantiated by showing and explaining the relationship between the service requirements and the testing and analysis that is conducted as part of the qualification program. The qualification documentation required by ASME QME-1-2007, including the Qualification Plan, Functional Qualification Report, and Application Report, for each MOV within the scope of this ITAAC is available for inspection by the NRC staff.

As specified in ASME QME-1-2007, Section QV-7410, the ranges of the pressure, temperature, and flow for each valve and the maximum seat-sealing differential pressure are defined in the Qualification Plan and documented in the Functional Qualification Report. ASME QME-1-2007, Section QV-7460 and associated subsections specify the functional qualification process for power-operated valve assemblies including valve and actuator internal inspections and measurements, orientation requirements, seat and stem leakage limitations, diagnostic data collection and analysis methods, static and dynamic flow diagnostic testing, and pressure locking and thermal binding evaluations. ASME QME-1-2007 also specifies provisions for the extrapolation of functional qualification to another valve assembly, demonstration of functional capability of production valve assemblies, and post-installation verification and inservice testing baseline requirements. ASME QME-1-2007 addresses environmental qualification, seismic qualification, end loading qualification, and sealing capability, through specific provisions or references to other industry documents.

As required by ASME QME-1-2007, Section QV-8100, the qualification process verified that each automatic depressurization MOV identified in DCD Tier 1, Table 2.1.2-1, is qualified to perform its designated function when used in its intended service. Therefore, the qualification documentation specifies any additional evaluation performed for specific valve assemblies where the valve design or intended service in a passive nuclear power plant might require capability beyond the qualification provisions described in

ASME QME-1-2007 that was developed based on current nuclear power plant experience. For example, the automatic depressurization valves were evaluated for potential end loading as applicable to their specific application.

~~Active valves are valves relied upon to change position to perform a safety-related function during licensing basis transients or events. Safety-related active valves, are required to function at the time of an accident.~~

~~Type Testing was performed under the design conditions identified in the design specification for the valves (Reference 4) to demonstrate that each motor-operated valve changes position as required. The qualification of active valve operability was performed in accordance with ASME QME-1-2007 (Reference 6). The ASME QME-1 testing for the valves identified in Table 2.1.2-1 included the following tests:~~

- ~~• Natural frequency determination of the valve assembly~~
- ~~• Side load (static deflection) testing~~
- ~~• Final static seat and stem leakage testing at operating pressures (no flow)~~
- ~~• Steam Testing~~
- ~~• Water Testing~~

~~Note that no end-loading qualification was performed because all AP1000 active valves meet the ASME QME-1-2007 criteria for exemption from end-loading qualification. Additional information about the methods used to qualify safety-related equipment is provided in Appendix 3D of the AP1000 DCD (Reference 3).~~

~~Attachment A identifies the Equipment Qualification Document Packages XXX (Reference 5) containing applicable test results and documentation that demonstrate that each motor-operated valve changes position as indicated in DCD Table 2.1.2-1 under design conditions.~~

ITAAC Finding Review

In accordance with XXX-XXX-XXX (project specific procedure for ITAAC completion), {Licensee} performed a review of all ITAAC findings pertaining to the subject ITAAC and associated corrective actions. This review found that there are no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in ITAAC Completion Package for ITAAC 2.1-02.12a.i (Reference 52) and available for NRC inspection.

ITAAC Completion Statement

Based on the above information, [Licensee] hereby notifies the NRC that ITAAC 2.1.02.12a.i was performed for Plant/Unit XYZ, and that the prescribed acceptance criteria are met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

We request NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact XXX at xxx-xxx-xxxx.

Sincerely,

{Signature of Licensee Representative}
{Typed Name of Licensee Representative}
{Title of Licensee Representative}

References (available for NRC inspection)

1. NEI 08-01, Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52.
2. NRC Regulatory Guide 1.215, Guidance for ITAAC Closure under 10 CFR Part 52
~~ITAAC 2.1.02.12a.i Completion Package~~
- ~~3. APP GW-GL-700, AP1000 Design Control Document, Appendix 3D~~
- ~~4. APP XXX, PV01 Design Specification~~
- ~~5. Equipment Qualification Document Package(s) (EQDPs) XXX~~
3. ASME- Standard QME-1-2007, Qualification of Active Mechanical Equipment
‡Used in Nuclear Power Plants
4. Revision 3 (September 2009) to NRC Regulatory Guide 1.100, Seismic Qualification of Electrical and Active Mechanical Equipment and Functional Qualification of Active Mechanical Equipment for Nuclear Power Plants
- ~~6-5. ITAAC 2.1.02.12a.i Completion Package~~

Attachment A

**EQUIPMENT QUALIFICATION ITAAC COMPLIANCE MATRIX FOR
AUTOMATIC DEPRESSURIZATION MOTOR OPERATED VALVES IN AP1000 DCD TIER 1
TABLE 2.1.2-1**

SYSTEM: REACTOR COOLANT SYSTEM

Equipment Name	Tag Number	Active Function	EQDP Report Number
First-stage ADS Motor-operated Valve (MOV)	RCS-PL-V001A	Transfer Open	EQDP PV01
First-stage ADS MOV	RCS-PL-V001B	Transfer Open	EQDP PV01
Second-stage ADS MOV	RCS-PL-V002A	Transfer Open	EQDP PV01
Second-stage ADS MOV	RCS-PL-V002B	Transfer Open	EQDP PV01
Third-stage ADS MOV	RCS-PL-V003A	Transfer Open	EQDP PV01
Third-stage ADS MOV	RCS-PL-V003B	Transfer Open	EQDP PV01
First-stage ADS Isolation MOV	RCS-PL-V011A	Transfer Open	EQDP PV01
First-stage ADS Isolation MOV	RCS-PL-V011B	Transfer Open	EQDP PV01
Second-stage ADS Isolation MOV	RCS-PL-V012A	Transfer Open	EQDP PV01
Second-stage ADS Isolation MOV	RCS-PL-V012B	Transfer Open	EQDP PV01
Third-stage ADS Isolation MOV	RCS-PL-V013A	Transfer Open	EQDP PV01
Third-stage ADS Isolation MOV	RCS-PL-V013B	Transfer Open	EQDP PV01