Revised Example D32 – Harsh Environment Qualification – Installed Configuration

XX/YY/ZZZZ (Date)

To: NRC

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

Subject: Completion of ITAAC 2.1 02.07a.ii

The purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of {Site Name and Unit #(s)} Inspection, Test, Analysis and Acceptance Criteria (ITAAC) Item 2.1 02.07a.ii for the site verification of Reactor Coolant System equipment qualified to harsh environments as identified in Table 2.1.2-1 of the DCD in accordance with 10 CFR 52.99(c)(1). The closure process for this ITAAC is based on the guidance described in NEI 08-01 (Reference 1).

ITAAC Statement

Design Commitment:

The Class 1E equipment identified in Table 2.1.2-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

Inspections, Tests, Analysis:

ii) Inspection will be performed of the as-built Class 1E equipment and the associated wiring, cables, and terminations located in a harsh environment.

Acceptance Criteria:

ii) A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 2.1.2-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

ITAAC Determination Basis

Multiple ITAAC are performed to demonstrate that the Class 1E equipment identified in DCD Tier 1 Table 2.1.2-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety

function. The subject ITAAC requires inspection of the as-built Class 1E equipment and the associated wiring, cables, and terminations located in a harsh environment.

Harsh environment qualification of the components in DCD Table 2.1.2-1 was previously verified by bounding type tests, analyses or a combination of type tests and analyses in accordance with ITAAC 2.1.02.07a.i (Reference 2). Equipment qualification data packages identify the equipment mounting employed for qualification and the environmental conditions tested or analyzed.

In accordance with procedure XYZ (Reference 5), an inspection was conducted of the Reactor Coolant System to confirm the satisfactory installation of the Class 1E components. The inspection included verification of equipment make/model/serial number; verification of as-designed equipment mounting, wiring, cables, and terminations; and verification of equipment location to confirm that the harsh environmental conditions for the room in which the component is mounted are bounded by the tested or analyzed conditions.

The documentation of installed configuration of harsh environment qualified components includes photographs and/or sketches of equipment mounting and connections. The verification of installed component configuration is documented in the Equipment Qualification (EQ) as-built reconciliation.

Attachment A identifies the EQ As-Built Reconciliation Report (Reference 6) completed to verify that the installed configuration of the Class 1E equipment identified in DCD Table 2.1.2-1 including the associated wiring, cables, and terminations are bounded by the qualified configuration and IEEE Standard 323-1974 (Reference 3).

ITAAC Finding Review

In accordance with XXX-XXX-XXX (project specific procedure for ITAAC close-out), a review of all ITAAC findings pertaining to the subject ITAAC and associated corrective actions. This review found that there were no relevant ITAAC findings associated with this ITAAC. The ITAAC close-out review is documented in ITAAC Completion Package for ITAAC 2.1 02.07a.ii (Reference 4) and available for NRC review.

ITAAC Closure Statement

Based on the above information, [Licensee] hereby notifies the NRC that ITAAC 2.1 02.07a.ii was performed for Plant/Unit XYZ and 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. Nuclear Power Plant ITAAC 2.1 02.07a.i ITAAC Closure Letter
3. IEEE 323-1974 – IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations
4. Nuclear Power Plant ITAAC 2.1 02.07a.ii ITAAC Completion Package
5. Procedure XYZ – Performance of Equipment Qualification As-Built Reconciliations
6. Equipment Qualification Data Packages as identified in Table 1 (enclosure to this letter)

Attachment A
EQUIPMENT QUALIFICATION ITAAC COMPLIANCE MATRIX FOR
HARSH ENVIRONMENT QUALIFIED COMPONENTS LISTED IN AP1000 DCD TIER 1 TABLE 2.1.2-1

SYSTEM: REACTOR COOLANT SYSTEM

Equipment Name	Tag Number	Class 1E/ Qual. for Harsh Envir.	EQDP Report Number	EQ As-Built Reconciliation Report Number
First-stage ADS Motor-operated Valve (MOV)	RCS-PL-V001A	Yes/Yes	EQDP PV01	RCS-PV-XXX
First-stage ADS MOV	RCS-PL-V001B	Yes/Yes	EQDP PV01	RCS-PV-XXX
Second-stage ADS MOV	RCS-PL-V002A	Yes/Yes	EQDP PV01	RCS-PV-XXX
Second-stage ADS MOV	RCS-PL-V002B	Yes/Yes	EQDP PV01	RCS-PV-XXX
Third-stage ADS MOV	RCS-PL-V003A	Yes/Yes	EQDP PV01	RCS-PV-XXX
Third-stage ADS MOV	RCS-PL-V003B	Yes/Yes	EQDP PV01	RCS-PV-XXX
Fourth-stage ADS Squib Valve	RCS-PL-V004A	Yes/Yes	EQDP PV70	RCS-PV-XXX
Fourth-stage ADS Squib Valve	RCS-PL-V004B	Yes/Yes	EQDP PV70	RCS-PV-XXX
Fourth-stage ADS Squib Valve	RCS-PL-V004C	Yes/Yes	EQDP PV70	RCS-PV-XXX
Fourth-stage ADS Squib Valve	RCS-PL-V004D	Yes/Yes	EQDP PV70	RCS-PV-XXX
ADS Discharge Header A Vacuum Relief Valve	RCS-PL-V010A	Yes/Yes	EQDP PV18	RCS-PV-XXX
ADS Discharge Header B Vacuum Relief Valve	RCS-PL-V010B	Yes/Yes	EQDP PV18	RCS-PV-XXX
First-stage ADS Isolation MOV	RCS-PL-V011A	Yes/Yes	EQDP PV01	RCS-PV-XXX
First-stage ADS Isolation MOV	RCS-PL-V011B	Yes/Yes	EQDP PV01	RCS-PV-XXX
Second-stage ADS Isolation MOV	RCS-PL-V012A	Yes/Yes	EQDP PV01	RCS-PV-XXX
Second-stage ADS Isolation MOV	RCS-PL-V012B	Yes/Yes	EQDP PV01	RCS-PV-XXX
Third-stage ADS Isolation MOV	RCS-PL-V013A	Yes/Yes	EQDP PV01	RCS-PV-XXX

[Table truncated]