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U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC C.2.6.12.06 [Index Number 676]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item C.2.6.12.06 [Index Number 676] for verifying that the reactor coolant pumps continue to receive power from either the main generator or the grid for a minimum of 3 seconds following a turbine trip. 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," which was endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests 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 Tom Petrak at 706-848-1575.

Respectfully submitted,

Kellh Roberts for MJY

Michael J. Yox
Regulatory Affairs Director Vogtle 3&4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC C.2.6.12.06 [Index Number 676]

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Southern Nuclear Operating Company
ND-19-1013
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC C.2.6.12.06 [Index Number 676]

ITAAC Statement

Design Commitment:

6. The reactor coolant pumps continue to receive power from either the main generator or the grid for a minimum of 3 seconds following a turbine trip.

Inspections, Tests, Analyses:

Analyses of the as-built offsite power system will be performed to confirm that power will be available to the reactor coolant pumps for a minimum of 3 seconds following a turbine trip when the buses powering the reactor coolant pumps are aligned to either the unit auxiliary transformers (UATs) or the reserve auxiliary transformers (RATs).

Acceptance Criteria:

A report exists and concludes that voltage at the high-side of the generator stepup transformer (GSU), and the RATs, does not drop more than 0.15 per unit (pu) from the pre-trip steady-state voltage for a minimum of 3 seconds following a turbine trip when the buses powering the reactor coolant pumps are aligned to either the UATs or the RATs.

ITAAC Determination Basis

Analyses of the as-built offsite power system were performed to confirm that power will be available to the reactor coolant pumps (RCPs) for a minimum of 3 seconds following a turbine trip when the buses powering the reactor coolant pumps are aligned to either the unit auxiliary transformers (UATs) or the reserve auxiliary transformers (RATs)

The analyses utilized proprietary power transmission system planning software which simulated worst case load data for Plant Vogtle (Units 1, 2, 3, 4) and nearby substations for 30 seconds following a turbine trip, as documented in the turbine trip study (Reference 1). The analyses accounted for, but were not limited to, the negative value of mechanical power from windage and friction losses of the generator acting as a motor, as presented in the Westinghouse proprietary "AP1000 Turbine Generator Data" report, (Reference 2). The results of the simulation conclude that voltage at the high-side of the generator step-up transformer (GSU-powered by the main generator), and the RATs (powered by the grid), does not drop more than 0.15 per unit (pu) from the Unit 4 pre-trip steady-state voltage for a minimum of 3 seconds following a Unit 4 turbine trip when the buses powering the reactor coolant pumps are aligned to either the UATs or the RATs.

The results of the turbine trip study show that the maximum voltage drop, over the 30 second simulation, at the high-side of the GSU and the RATs, is 0.009 pu and 0.017 pu, respectively. Therefore, this report concludes that the voltage at the high-side of the GSU and the RATs does not drop more than 0.15 per unit (pu) from the pre-trip steady-state voltage for a minimum of 3 seconds following a turbine trip, when the buses powering the RCPs are aligned to either the UATs or the RATs, which meets the ITAAC acceptance criteria.

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all ITAAC findings pertaining to the subject ITAAC and associated corrective actions. This review determined that there are no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC C.2.6.12.06 (Reference 3) and available for NRC inspection.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC C.2.6.12.06 was performed for VEGP Unit 4 and that the prescribed acceptance criteria were 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.

References (available for NRC inspection)

1. C.2.6.12.06-PCD-U4-Rev 0-2019, "Vogtle Unit 4 Turbine Trip Study Report for ITAAC C2.6.12.06 (Index 676)"
2. APP-MG01-Z0D-001-Rev 1, "AP1000 Turbine Generator Data"
3. C.2.6.12.06-U4-CP- Rev0, "Vogtle Unit 4 ITAAC C.2.6.12.06 (676) Completion Package"