Southern Nuclear

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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Edwin I. Hatch Nuclear – Units 1 and 2
Response to NRC Request for Additional Information Concerning
License Amendment Request for Technical Specifications 3.3.8.1 and 3.8.1
Regarding Unit 1 Degraded Voltage Protection

Ladies and Gentlemen:

By letter dated April 30, 2019 (NRC Agencywide Documents Access and Management System Accession No. ML19123A101), Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) for Hatch Nuclear Plant (HNP) Units 1 and Unit 2. The proposed amendment would revise Unit 1 and Unit 2 Technical Specification (TS) 3.3.8.1, "Loss of Power (LOP) Instrumentation" to modify the instrument allowable values for the Unit 1 4.16 kV emergency bus degraded voltage instrumentation and delete the annunciation requirements for the Unit 1 4.16 kV emergency bus undervoltage instrumentation, including associated TS actions. This proposed amendment would also delete Unit 1 License Condition 2.C(11) and Unit 2 License Condition 2.C(3)(i). Additionally, the proposed amendment would revise surveillance requirement (SR) 3.8.1.8 in TS 3.8.1, "AC Sources – Operating," to increase the voltage limit in the emergency diesel generator (DG) full load rejection test for the Unit 1 DGs.

By electronic mail dated August 5, 2019, the NRC staff notified SNC that additional information is needed for the staff to complete their review. The enclosure provides the SNC response to the NRC requests for additional information (RAIs).

The responses do not modify the scope or intent of the original request and the conclusions of the No Significant Hazards Consideration and Environmental Consideration contained in the original LAR have been reviewed and are unaffected by the RAI responses.

This letter contains no NRC commitments. If you have any questions, please contact Jamie Coleman at 205.992.6611.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 29th day of August 2019.

Respectfully submitted,

C. A. Gayheart
Director, Regulatory Affairs
Southern Nuclear Operating Company

CAG/RMJ

Enclosure: SNC Responses to NRC Requests for Additional Information

cc: Regional Administrator, Region II
NRR Project Manager – Hatch
Senior Resident Inspector – Hatch
Director, Environmental Protection Division – State of Georgia
RType: CHA02.004

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Enclosure

SNC Responses to NRC Requests for Additional Information

RAI-1:

In the LAR, the licensee requested to revise the AVs for Function 2, "4.16 kV Emergency Bus Undervoltage (Degraded Voltage)," to include Functions 2.a (Bus Undervoltage) and 2.b (Time Delay). There are new AVs specified for the new Degraded Voltage Relays (DVRs). To evaluate this request, the NRC staff needs to confirm whether the proposed undervoltage setting AVs provide reasonable margin for satisfying applicable regulatory criteria within 10 CFR 50.36(c). Please provide the manufacturer name, and specific model number, which will be used to accomplish the safety functions associated with these proposed DVRs.

This information is needed to enable the NRC staff to verify that the requirements of 10 CFR 50.36(c) are reasonably being met regarding the selection of the AVs for "Degraded Voltage," against a loss of power condition.

SNC Response to RAI-1:

The relays proposed to accomplish the degraded voltage function are manufactured by ABB Power T&D Company and are single phase voltage relays, Type 27N. These DVRs are of the same make and model (i.e., ABB 411T5375-HF) used for the Hatch Nuclear Plant (HNP) Unit 2 4.16 kV emergency buses.

RAI-2:

In the LAR, the licensee requested to revise the AV of the Time Delay for Function 2.b, "4.16 kV Emergency Bus Undervoltage (Degraded Voltage)," from ≤ 21.5 seconds to ≤ 11.3 seconds. To evaluate this request, the NRC staff needs to confirm whether the proposed time delay setting AVs provide reasonable margin needed to satisfy applicable regulatory criteria within 10 CFR 50.36(c).

- *Please provide the proposed time delay setting range and manufacturer's specified time delay performance tolerance that will be used for the proposed relays (e.g., 1-10 seconds; 2-20 seconds; or 10-100 seconds, at +/- X% of range or +/-X% of setting).*
- *In your response, please indicate whether the manufacturer's specification for the time delay performance tolerance is provided in terms of percent of time delay setting or percent of range.*

This information is needed to enable the NRC staff to verify that the requirements of 10 CFR 50.36(c) are being met regarding the selection of the allowable values for "Degraded Voltage," against a loss of power condition.

SNC Response to RAI-2:

The time delay setting range of the DVRs proposed for the HNP Unit 1 4.16 kV emergency buses is 2 to 20 seconds with a time delay performance tolerance of ±1% of setting. A time delay performance tolerance for the relay time delay was provided in terms of percent of time delay setting in the DVR procurement specification provided to the manufacturer (i.e., ABB).

RAI-3:

The LAR states, in part, that Emergency Diesel Generators (DGs) 1A and 1 C have a 1000-hour rating of 2850 kilowatt (kW) and a 168-hour rating of 3250 kW. However, as described in the LAR dated February 19, 2019 (ADAMS Accession No. ML19050A010), DGs 2A and 2C have a continuous rating of 2850 kW and up to a 30-minute rating of 3500 kW. The swing DG has a 1000-hour rating of 2850 kW up to a 168-hour rating of 3250 kW.

It appears that the LAR uses the swing DG's rating in describing the rating for DGs 1A and 1C. It is also not clear what the continuous rating and 30-minute rating of DGs 1A and 1C are. Please provide the clarification of the rating of DGs 1A and 1C including the continuous rating and 30-minute rating.

SNC Response to RAI-3:

As indicated in the license amendment request and the HNP Unit 1 TS bases for TS 3.8.1, "AC Sources – Operating," the HNP Unit 1 DGs (i.e., DGs 1A, 1B (swing DG), and 1C) have a 1000-hour rating of 2850 kW and 168-hour (i.e., 7 days) rating of 3250 kW. This is consistent with HNP Unit 1 final safety analysis report section 8.4, which indicates a 7-day rating of 3250 kW. The manufacturer, Fairbanks Morse, has confirmed that the continuous and 30-minute ratings for the HNP Unit 1 DGs (DGs 1A, 1B (swing DG), and 1C) are 2850 kW and 3500 kW, respectively. These ratings are equivalent to the HNP Unit 2 DGs.