

Southern Nuclear Operating Company

Component Interface Module – Diverse Actuation System Diversity Modification

Regulatory Audit Plan

June 9 – 13, 2014
Rockville, Maryland

BACKGROUND

By letter dated March 17, 2014, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14076A173), Southern Nuclear Operating Company (SNC), the licensee for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, requests the United States Nuclear Regulatory Commission's (NRC) approval of an amendment of the combined licenses (COL) for VEGP Units 3 and 4, nuclear power facility (NPF) COL Numbers NPF-91 and NPF-92, respectively. The proposed license amendment request (LAR-13-020) would revise the human diversity design requirements as related to the safety-related Protection and Safety Monitoring System (PMS) Component Interface Module (CIM) and the non-safety related Diverse Actuation System (DAS) diversity design. This LAR seeks approval of a proposed change to AP1000 DCD Tier 2* reference document WCAP-17179, "AP1000 Component Interface Module Technical Report," that is involved with the LAR revision. The LAR requested NRC approval of the proposed revisions to the CIM/DAS human diversity design process and licensing documentation.

To support the staff's safety evaluation of the LAR, this audit is planned to decrease the time for the staff to gain a thorough understanding of the proposed revisions as well as review applicable documentation relied upon to justify and demonstrate the continued conformance to applicable regulatory criteria.

In order to gain a better understanding of the proposed LAR design process and licensing documentation revisions, this audit will consist of a week-long document review period which will concentrate on the CIM/DAS development lifecycle design process changes, applicable analysis confirming the final design process changes, and all reports and papers listed in the LAR that were not submitted as part of the LAR. These documents should be electronically uploaded to a secure web portal for staff to review at their headquarters facility in Rockville, Maryland, and/or made available in hard-copy form at the Westinghouse Twinbrook facility located in Rockville, Maryland. Communication between SNC and the NRC staff will be through conference calls or designated personnel located onsite. After this audit review, any additional information that is necessary for the licensee to supplement its amendment for staff to reach a regulatory decision will be requested from the licensee either in a request for additional information (RAI) and/or will be requested to be made available during a future onsite audit.

REGULATORY AUDIT BASIS

To support its safety evaluation of LAR-13-020, the Instrumentation, Controls and Electronics Engineering Branch 1 (ICE1) will conduct an audit. The purpose of this audit is to determine if the proposed CIM/DAS diversity design process changes continue to conform to the applicable regulatory criterion.

Enclosure

This audit will provide information necessary to complete the NRC staff's safety evaluation of the proposed SNC LAR design process revisions to the PMS (CIM) and DAS licensing documentation.

REGULATORY AUDIT SCOPE

The objective of this audit is to verify via an independent safety evaluation, that the revisions to the NRC licensing documentation for the PMS (CIM) and DAS continue to conform to applicable regulations, standards, guidelines, plans, and procedures by assessing the implementation of the proposed design process changes and the licensee's analysis results and conclusions of these changes.

AUDIT REQUIREMENTS

System Safety -Verify that the licensed PMS (CIM) system safety plans and procedures used during the safety analysis activities of the CIM/DAS design revision were adequate to determine that the proposed LAR design revision implementation continue to conform to applicable regulatory criterion and provides requisite assurance that the CIM design process changes are adequate to be used in a safety-related application.

INFORMATION NECESSARY FOR THE REGULATORY AUDIT

At a minimum, staff expects to review during the week-long document audit review period:

- All applicable PMS(CIM) and DAS lifecycle design change/revision documentation
- All documentation that confirms LAR Table 2, "Modified Human Diversity Position" attributes
- All documentation of the Independent Review Team(s)
- NUREG/CR-7007 evaluation worksheet utilized to evaluate all diversity aspects of the CIM/DAS
- Documented internal review concluding sufficient diversity exists between the CIM and DAS
- Documented third party review concluding sufficient diversity exists between the CIM and DAS
- Documentation of unique and diverse software tools used between PMS/CIM and DAS

The audit staff also requires current Requirements Traceability Matrix (RTM) documentation in order to observe that applicable design revision functional requirements were correctly implemented in the PMS (CIM) and DAS as a result of this LAR revision.

TEAM ASSIGNMENTS/RESOURCE ESTIMATES

The resource estimate for this audit visit is approximately 320 hours of direct audit effort. The NRC staff performing this audit will be:

NRC/NRO/DE/ICE1:

- Audit Lead Ken Mott - 301-415-3242
- Branch Chief Terry Jackson - 301-415-7313

NRC/NRO/DE/ICE2:

- Electronics Engineer Hyung Je - 301-415-5343

LOGISTICS

This document review week-long audit will start on the morning of Monday, June 9, 2014, and conclude on the afternoon of Friday, June 13, 2014. All requested documents would need to be uploaded to a secure web portal and/or provided in hard-copy form at the Westinghouse Twinbrook facility located in Rockville, Maryland, for staff's review. The tentative schedule for this document review audit is as follows:

- **Monday, June 9, 2014 (9:00 a.m. – 4:45 p.m.)**
 - 9:00 a.m. – 10:00 a.m. Telephone Conference Entrance Meeting (NRC staff - purpose of audit; SNC staff - brief overview of CIM/DAS design revision lifecycle process).
 - 2:00 p.m. – 2:30 p.m. Brief meeting to discuss any clarifications needed by staff and/or submit additional document request by staff.
 - 4:00 p.m. – 4:45 p.m. End of day meeting to discuss audit review progress for the day.
- **Tuesday – Wednesday, June 10 - 11, 2014 (9:00 a.m. – 4:45 p.m.)**
 - 2:00 p.m. – 2:30 p.m. Brief meeting to discuss any clarifications needed by staff and/or submit additional document request by staff.
 - 4:00 p.m. – 4:45 p.m. End of day meeting to discuss audit review progress for the day.
- **Thursday, June 12, 2014 (9:00 a.m. – 4:45 p.m.)**
 - 10:00 a.m. – 11:00 a.m. Tentative meeting time for any additional discussions, clarifications, or presentations requested by staff. Meeting will be canceled if not necessary.
 - 2:00 p.m. – 2:30 p.m. Brief meeting to discuss any clarifications or additional document request by staff.
 - 4:00 p.m. – 4:45 p.m. End of day meeting to discuss audit review progress for the day.
- **Friday, June 13, 2014 (9:00 a.m. – 3:45 p.m.)**
 - 11:00 a.m. – 11:30 p.m. Brief meeting to discuss any clarifications or additional document request
 - 3:00 p.m. – 3:45 p.m. Exit meeting (NRC staff -general overview of observations and identification of any open items)

DELIVERABLES

At the conclusion of the audit, the NRC staff will conduct an exit briefing and will provide a summary of audit results in each subject area defined in the audit scope.

The NRC audit report will be issued within 90 days of the completion of the audit.