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Clifford K. Doutt

Statement of Professional Qualifications

Current Position:

Senior Electrical Engineer — Aging Management of Structures, Electrical, and Systems Branch
Division of License Renewal
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Education:

B.S. Electrical Engineering Technology, Lake Superior State University

Summary:

Mr. Doutt has 33 years of experience in the nuclear power industry including 22 years with the NRC. Through education, training, and work experience involving the construction, startup, operation, and regulation of the nuclear power industry, Mr. Doutt has obtained significant experience in the areas of instrumentation and control, electrical engineering, and regulation of the nuclear industry including licensing, inspection, and maintenance. He has extensive knowledge of NRC regulations and guidance, and industry codes and standards. Mr. Doutt's NRC career has included working as an senior electrical engineer in the Instrumentation and Controls Branch, Division of Engineering, Office of Nuclear Reactor Regulation, as a senior reliability and risk analyst in the PRA Licensing Branch, Division of Risk Assessment, Office of Nuclear Reactor Regulation, and as a senior electrical engineer in the Aging Management of Structures, Electrical, and Systems Branch, Division of Licenses Renewal, Office of Nuclear Reactor Regulation.

As an engineer in NRR, Mr. Doutt has been responsible for license amendment request and topical report safety reviews involving surveillance and allowed outage time extensions, license renewal, setpoint methodology, digital system upgrades including the reactor protection system, and various instrumentation upgrades. Assignments included updates of the standard review plan and branch technical positions concerning digital systems and instrumentation, regulatory guide development, the review of operating experience and the issuance of generic communications, and the participation in inspections and site audits. Responsibilities also included the technical monitoring of contracts concerning on-line instrumentation monitoring and calibration and surveillance interval extensions. Mr. Doutt has also participated on standards committee working groups involved with digital systems, instrumentation setpoints, safety system criteria and single failure criteria.

Experience:

U.S. Nuclear Regulatory Commission, 1989-Present

2009 – Present Aging Management of Structures, Electrical, and Systems Branch, Division of License Renewal, Office of Nuclear Reactor Regulation

Responsibilities include electrical reviewer for license renewal amendments. Responsibilities included participation in the aging management program (AMP) audits and preparing audit reports and safety review input for the following plants: Cooper, Kewaunee, Crystal River, Duane Arnold, Palo Verde, Salem, Hope Creek, Diablo Canyon, Columbia, Seabrook, Davis Besse, South Texas, Limerick, Grand Gulf, Vermont Yankee, and Indian Point. Tasks included the development of the audit report, identification of RAIs, and authoring the SER for assigned electrical areas. Review responsibilities include aging management programs (AMPs) for cables and connections, inaccessible cables, metal-enclosed bus, fuse holders, electrical cable connections, and EQ programs. Assignments also included the DLR electrical technical lead for the GALL Revision 2 update. This work involved the coordination with contractors, program offices and stakeholders, including reviewing, comment resolution, and revising of NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," Aging Management Programs (AMPs) X.E1, XI.E1, XI.E2, XI.E3, XI.E4, XI.E5, XI.E6, Electrical Aging Management Reviews (AMRs), and associated changes to NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants." The GALL report update integrated staff license renewal experience obtained during license review amendment (LRA) reviews, audits, inspections, interim staff guidance, industry operating experience, stakeholder comments, and updated standards and guidance. Responsibilities also include the peer review of electrical staff AMP audit and SER input. Additional duties include participation in the development of an international GALL Report (IGALL) through IAEA with specific responsibility for electrical component aging management. Provided support and presented information on DLR license renewal LRA reviews and the GALL Report update to ACRS including subcommittee and full committee for electrical license renewal aging management program review areas.

2000 to 2009 PRA Licensing Branch Division of Risk Assessment, Office of NRR

Mr. Doutt's responsibilities included the evaluation of risk-informed licensing actions including the safety review of topical reports requesting instrumentation or electrical equipment completion time or surveillance interval extensions. Specific examples include safety evaluation reports for topical reports to extend surveillance intervals and completion times for RTS and ESFAS instrumentation, topical report safety reviews to extend PCIV completion times, and a topical report and license amendments safety review to extend the surveillance intervals for EFCVs. Assignments also included safety evaluations for license amendment requests to extend vital AC inverters, station battery, and diesel generator completion times. Additional tasks included the evaluation of transformer replacement risk, and heavy load lift risk. Participated in plant program audits during the development of RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities." Additional responsibilities included task working group assignments to evaluate flow instrumentation performance, calibration, and commissioning and the investigation and development of guidance to utilize risk insights in licensing digital systems including

upgrades. Responsibilities also included the development and maintenance of the DRA, APLA internal NRC websites.

1989 -2000 Assigned to the Instrumentation and Controls Branch

While assigned to the Instrumentation and Control Branch Mr. Doutt's responsibilities included the evaluation of technical specification licensing actions, evaluating responses to NRC bulletins, assisting in the development of generic letters, technical support to the regional offices including task interface agreement resolution, technical monitor for technical assistance contracts, allegation resolution, evaluation of topical reports, temporary waivers of compliance, augmented team inspections, system based inspections, and generic issue resolution. Additional responsibilities included the development of regulatory guides, and assisting in the development of the standard review plan and branch technical position updates relating to digital systems and instrumentation issues. While in the instrumentation and controls branch Mr. Doutt was a NRC representative and a voting member for IEEE SC-6 including subcommittee SC6.3 with responsibility for IEEE Std. 603, Standard Criteria for Safety Systems for Nuclear Power Generating Stations," and IEEE Std 379, "Standard Application of the Single Failure Criterion to Nuclear Power Generating Station Safety Systems." Mr. Doutt was also a NRC representative and voting member on ISA 67, "Nuclear Power Plant Standards," and participated in subcommittee 67.04 and associated standards ANSI/ISA-67.04.01, "Setpoints for Nuclear Safety-Related Instrumentation," and ANSI/ISA-67.06.01, "Performance Monitoring for Nuclear Safety-Related Instrument Channels in Nuclear Power Plants." Additional responsibilities included peer review of certified design material and inspection, tests, analyses, and acceptance criteria for both the advanced boiling water reactor and CE80+. Additional safety reviews included assignment as the principle reviewer for an RPS digital system upgrade for Diablo Canyon and assisting in digital retrofit reviews for Haddam Neck (auxiliary feedwater), Zion (RPS Replacement), and D. C. Cook (RPS Replacement). Assignments also included providing instrumentation and controls input for Generic Letter 91-04 related to setpoint methodology and calibration interval extensions and the subsequent license amendment safety evaluations for various plants. Additional tasks included topical report/technical report safety reviews (with the primary focus on instrumentation calibration and surveillance intervals), licensing actions, the update of regulatory guides including RG 1.105, "Instrumentation Setpoints," and RG 1.153, "Criteria for Safety Systems," Information Notices including IN 95-10, "Potential for Loss of Automatic Engineered Features Actuation," and improved standard technical specifications license amendment reviews. Completed the initial review of industry topical reports concerning industry methods to incorporate on-line monitoring of instrumentation performance into plant calibrations and surveillances. Responsible for the initial evaluation and safety review of an industry topical report for the use of new flow meter technology to allow an increase reactor thermal power through a reduction in measurement uncertainty.

Industry Experience 1979 to 1989

Mr. Doutt worked for an architectural engineering firm on nuclear power plant projects involving construction, start-up, operations, plant modifications, and plant restart and recovery efforts.

Experience included design engineering, field engineering, resident engineering including resident engineering lead, and startup. Major assignments during this period included electrical layout design, raceway, cable scheduling and routing and installation package reviews, panel installation/design, design modifications, cable termination and inspections, engineering support to electrical field engineering and start-up engineering. Responsibilities also included the review of fire protection modifications and documentation review. Duties also included the authoring of design change notices and approval of field change notices involving electrical layout, cable installation, loop diagrams, logics, connections, and schematics. Further responsibilities include providing scheduling support including start-up punch list coordination and expediting.

Mr. Doutt's operating plant experience included responsibilities as a modification engineer and plant systems engineer. Major responsibilities included installation, test, and startup of safety parameter display systems (SPDS), Appendix R reviews and modifications, installation and testing of microprocessor based fire protection systems, security system computer upgrades, switchgear/MCC/ microprocessor upgrades, technical support center and emergency response facility control panel installation and modifications, equipment environmental qualification, radiation monitor upgrades, test and maintenance procedure development for fire protection systems, SPDS, and load center/switchgear upgrades/modifications. Duties included the design, site installation packages, scheduling, test, and turnover of these systems. Specific tasks included analog and digital process interfaces, instrument installation, software/hardware verification and validation, modification package development, system functional tests, software and hardware modifications and upgrades. Duties also included the supervision of instrument technicians and electricians assigned to these projects. Additional duties included outage support as needed for various systems