

NAME: Michael Villaran, PE

CLASSIFICATION:

Principal Engineer

1973 - B.E., Engineering, SUNY at Stony Brook, NY

1975 - M.E., Electric Power Engineering, Rensselaer Polytechnic Institute, NY

1980 - License, Professional Engineer, New York

- 1987-Present Brookhaven National Laboratory. Developed R&D instrumentation design for electric power quality monitoring at the LISF; provided technical support in development and design of BNL's new NE Solar Energy Research Center (NSERC) and the proposed Advanced Electric Grid Innovation and Support Center (AEGIS); participated in smart grid RD&D projects at BNL; participated in advanced distribution system modeling, optimization, and control projects; provided technical support and input to Smarter Electric Grid Research, Innovation, Development, Demonstration, Deployment (SGRID³) regional initiative projects. Provided systems analysis and technical assistance to US NRC on programs such as: nuclear plant electrical distribution system modeling and analysis for grid fault effects on nuclear plants and energetic switchgear electrical faults, Class 1E Battery confirmatory testing, rewrite of USNRC 'Electric Power' Standard Review Plan (SRP), I&C and Environmental Qualification (EQ) technical expert for 95003 Supplemental Inspection, new reactor licensing, review of US-APWR Technical Specifications, nuclear plant comprehensive design basis inspections (CDBI), EQ research and testing of electric cables and splices, nuclear plant Post-Fire Safe Shutdown Inspections, development and implementation of testing laboratory quality assurance program, development of training materials and presentation of post-fire safe-shutdown inspection training, Nuclear Plant Aging Research for components and systems, technical review of Safety Analysis Reports (SAR) for non-power nuclear reactor facilities, nuclear plant License Renewal Application (LRA) audit inspections, instrumentation isolation device testing, risk-based safety system inspection guides, and inspections of nuclear vendor facilities. Performed technical review and rewrite of the SAR I&C Section for the National Institute of Standards and Technology (NIST) research reactor. Provided technical assistance to US DoE on several facility safety review inspections including: USAR technical review and SER preparation for the I&C and electric power sections of the High Flux Isotope Reactor (HFIR) at Oak Ridge (in 2000 and 2003); Operational Readiness Review (ORR) for the 2001 restart of HFIR at Oak Ridge; technical safety review for the Plutonium handling facility at Los Alamos; development of performance assessment guidelines for DoE facility aging assessments and analyses. Performed a life extension research study on gas turbine power generation facilities for the Consolidated Edison Company of NY.
- 1979-1987 Long Island Lighting Company. Shoreham Nuclear Power Station, Plant Engineer, Instrumentation and Controls (I&C) Section. Supervise and schedule I&C surveillance testing and maintenance activities, set-up and initiation of the Technical Specification surveillance testing program for the power station, review and preparation of station procedures, performed station design modifications, technical support engineering, plant staff licensing liaison with US NRC, bathymetric and topological monitoring, I&C surveillance testing, acceptance testing for commissioning plant systems.
- Engineer, Electrical Engineering Department. Electrical equipment design, specification, and coordination for utility plants and buildings projects; electrical project estimating; electrical distribution systems for power station waste water treatment facilities; equipment manufacturer inspection, electrical distribution system design projects; electrical distribution system emergency restoration; Substation Maintenance Department training assignment.
- 1976-1979 Westinghouse Electric Corp. Project Engineer, Transmission and Distribution (T&D) International Projects. Electrical design, coordination, and project management for large industrial substation projects in Venezuela and Colombia. Training assignments with Medium Power Transformer Division, Relay and Instrumentation Division, and Advanced Systems Technology Group.
- 1973-1974 Fairchild Republic Company. Advanced Products Group. Advanced Fighter Technology Integration (AFTI) Program: aerodynamics development and analysis, aircraft configuration design

and development, aircraft aerodynamic and engine performance. Assignments on US Air Force A-10 fighter program, NASA space shuttle, and Boeing 747 wing control surfaces.