

LONGENECKER & ASSOCIATES

EXPERIENCE SUMMARY

James F. Gleason

Experience:

- Thirty years experience in nuclear safety with expertise in licensing strategy, nuclear standards, equipment qualification, seismic qualification, radiation, corrective action, quality assurance, safety culture, commercial grade dedication, hazard analysis, and materials aging.
- Nuclear Engineering Manager, Nuclear Safety Consultant.
- Principal Researcher on nuclear safety research for Nuclear Regulatory Commission, Brookhaven National Laboratories, and Electric Power Research Institute.
- Developer of international nuclear safety standards and nuclear licensing development.
- Peer reviewer of Sandia National Laboratories, Brookhaven National Laboratories and Nuclear Regulatory Commission nuclear safety research.
- Subject Matter Expert on Hazards Analysis and Equipment Qualification for the Monitored Geologic Repository for the Department of Energy's Yucca Mountain Project

Significant accomplishments.

Developed Preliminary Hazards Analysis for Integrated Safety Management of Monitored Geologic Repository for the Department of Energy's Yucca Mountain Project.

Developed Safety Analysis Report Section 1.13 for equipment qualification for the Monitored Geologic Repository for the Department of Energy's Yucca Mountain Project.

Developed international nuclear consensus standards and licensing development for nuclear facilities. Collaborated with NRC, NEI, IEC, ANS, and international experts to develop standards for nuclear power plants, nuclear facilities and geologic repositories. Chairman of IEEE STD 323™-2003, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations". Member of IEEE Nuclear Power Engineering Committee. Lead developer of risk-informed performance based evaluations of nuclear standards.

Peer review of Sandia National Laboratories nuclear safety research on performance and age related degradation of nuclear safety systems.

Peer review of Brookhaven National Laboratories nuclear safety research on qualification, condition monitoring, radiation effects, design basis accident performance, and age related degradation of nuclear safety systems.

Principal Investigator for NRC Nuclear Plant Aging Research investigating radiation and age related degradation, performance confirmation, testing and maintenance. Authored NUREG/CR-5762, "Comprehensive Aging Assessment of Circuit Breakers and Relays," NRC's Nuclear Power Plant Aging Research (NPAR) Program.

Principal Investigator for Electric Power Research Institute on radiation degradation, thermal aging and performance confirmation of seismic performance. Authored EPRI NP-3326, "Correlation Between Aging and Seismic Qualification for Nuclear Plant Electrical Components."

Principal Investigator for Electric Power Research Institute on seismic performance and seismic ruggedness. Authored EPRI NP-5024, "Seismic Ruggedness of Aged Electrical Components,"

Principal Investigator for Electric Power Research Institute on seals, seal aging and seal methodology in nuclear safety applications. Authored EPRI NP-5000, "Handbook on Electrical Interface Sealing."

Principal Investigator for Electric Power Research Institute on radiation and age related degradation of seals and optimizing replacement of equipment seals. Authored EPRI NP-6731, "Guide to Optimized Replacement of Equipment Seals,"

Principal Investigator for Electric Power Research Institute on shelf life of limited life components. Authored EPRI NP-6408, "Guidelines for Establishing, Maintaining and Extending the Shelf Life Capability of Limited Life Items (NCIG-13)."

Principal Investigator for Electric Power Research Institute on condition monitoring. Authored report on condition monitoring and age related degradation determinations utilizing infrared thermography, vibration analysis, electromagnetic and physical inspections.

Program Manager for NRC consulting activities for resolution of issues related to aging, commercial grade dedication, design basis events, equipment qualification, maintenance, plant license renewal, probabilistic risk, radiation, seismic qualification, and nuclear quality assurance. Contributing author to Division of Operating Reactors Guidelines for Equipment Qualification. Peer review of NUREG-0588 "Interim Staff Position On Equipment Qualifications Of Safety-Related Electrical Equipment".

Expert Witness on Shoreham's ASLB hearings on Environmental, Aging and Seismic Qualification.

Managed nuclear engineering services for the world's largest independent test laboratory. Responsibilities included simultaneous program management of qualification teams at BWR Owner's Group, Byron, Braidwood, Browns Ferry, Fermi, Fort St. Vrain, LaSalle, Nine Mile Point, Oyster Creek, Pilgrim, Sequoyah and Shoreham.

Consultant to nuclear utility executive management on significant issues with the Nuclear Regulatory Commission. Examples are:

- Consultant to Nuclear Vice President of Niagara Mohawk Power Corporation and represented NMPC before NRC hearings for show cause order on 79-01B compliance.
- Consultant to Admiral White of Tennessee Valley Authority and represented TVA before NRC hearings for cable issues at Sequoyah.
- Consultant to Engineering Manager of Boston Edison, developed equipment assessment plan, restart guidelines, and represented BECO before NRC for high drywell issue at Pilgrim.
- Consultant to Nuclear Vice President of Public Service of Colorado, developed unique analysis qualification process and represented PSC before NRC hearings for 79-01B compliance for High Temperature Gas Cooled Reactor at Fort St. Vrain.
- Consultant to Vice President of Boston Edison, developed equipment qualification 79-01B compliance program and developed process in which NRC allowed Pilgrim to continue to operate.
- Consultant to Vice President of Public Service of New Hampshire and resolved the last issue with NRC, which allowed Seabrook to obtain its operating license.

Performed Qualification testing and certification on nuclear safety systems in USA, Canada, Mexico, South Korea, Spain and United Kingdom.

Three years, Magic Chef Microwave Division, Quality Assurance Manager and Engineering Manager responsible for managing Quality Assurance, Quality Control and Reliability testing. Performed failure analyses of in-house and field failures, and approved warranty claims. Created a reliability life test center and established the MTBF and warranty period for consumer and industrial microwave ovens.

Four years, Industrial Nucleonics, Quality Assurance Manager responsible for Total Quality Management, inspection, test and acceptance of industrial automation process control equipment using radioactive sources. Supervised Final test, printed circuit board manufacturing, flow soldering and automatic computerized testing. Perform Material Review Board functions, evaluated equipment and system failures and performed reliability evaluations for high reliability Navy products.

Three years, SCI Systems, Reliability Engineer responsible for performing reliability calculations of military, satellite, missile, and NASA telemetry systems. Analyzed electronics to determine Mean Time Between Failure, failure rates and reliability. Responsible for performing failure analysis of electronic assembly failures including

functional testing, trouble shooting and destructive physical analysis on PC Board assemblies, computer systems, transistors, integrated circuits, diodes, capacitors. Performed curve tracer testing and programmed integrated circuit test system.

Academic History:

B.S.M.E., Rensselaer Polytechnic Institute, 1968

M.S.I.E., Operations Research Major, The Ohio State University, 1975

Professional Affiliations and Certifications:

Senior Member Institute of Electrical and Electronic Engineers,

Member of Nuclear Power Engineering Committee; Secretary SC2 Subcommittee on Qualification responsible for IEEE 323, 344 and daughter standards;

Chairman of IEEE 323 Working Group, September 2002 to Present

Awards:

Institute of Electrical and Electronics Engineering Award for developing IEEE Standard 323-2003

BSC STAR Award for Preliminary Hazard Analysis, July 2004.

BSC STAR Award for YMP Sustainable Design presentation to DOE, May 2004.

Certifications:

Professional Engineers License, Quality, California No. 2635

ASQC Certified Quality Engineer No. E-4574

EQ Level III, Seismic Level III, Generic Qualification Level III, TPQ Level III, MOV Level III

Publications: (Authored over 50 professional publications)

“Risk-informed Performance Based” presented at IEEE Nuclear Power Engineering Committee, July 2006

“A Comparison in Safety Culture”, presented at IEEE Subcommittee on Qualification April 2006

“Perspective on Sustainable Design for the Monitored Geologic Repository at Yucca Mountain,” DOE Pollution Prevention Televideo Conference, Las Vegas, May 19, 2004.

“Enhanced Safety and Security System Performance Monitoring in Waste Management”, 10th International High-Level Radioactive Waste Management Conference, Las Vegas NV, March 2003.

“Non-Intrusive Condition Monitoring”, presented at International Wire Aging Conference, Rockville, MD, April 23-25, 2002.

“EQ for Digital Upgrades”, Clearwater, FL, November 2002.

“Equipment Qualification Trends 2001”, Korean Atomic Energy Research Institute Annual Meeting, January 2001.

"EQ Testing Conservatism;" "Conditioned Monitoring," presented at Nuclear Regulatory Commission Equipment Qualification Workshop, November 14-15, 1993, Rockville, MD.

NUREG/CR-5762, "Comprehensive Aging Assessment of Circuit Breakers and Relays," NRC's Nuclear Power Plant Aging Research (NPAR) Program, March, 1992
EPRI NP-6408, "Guidelines for Establishing, Maintaining and Extending the Shelf Life Capability of Limited Life Items (NCIG-13)," May, 1992
EPRI NP-6731, "Guide to Optimized Replacement of Equipment Seals," March, 1990
"Comprehensive Aging Assessment of Circuit Breakers and Relays, Phase II," 17th Water reactor Safety Meeting, Rockville, MD, October, 1989
EPRI NP-5000, "Handbook on Electrical Interface Sealing," 1988
EPRI NP-5024, "Seismic Ruggedness of Aged Electrical Components," January 1987
EPRI NP-3326, "Correlation Between Aging and Seismic Qualification for Nuclear Plant Electrical Components," December 1983
"Radiation Testing Results on Electronics," ANS Annual Technical Meeting Transactions, Volume 46, TANSO, 461-877, 1984
"The Effects of Aging on the Performance of Safety-related Equipment," NRC Sponsored Workshop on Nuclear Power Plant Aging, August 4-5, 1982
"Radiation Procedures in Equipment Qualification," ANS Winter Meeting, November 29-December 3, 1981
"The Application of Accelerated Aging Methodology to Post-Accident Simulation," ANS 1981 Annual Meeting, June 1981
"Environmental Qualification of Safety Related Equipment to NUREG 0588 and DOR Guidelines," 1981 American Power Conference, April 27-29, 1981
"Environmental Qualification of Nuclear Power Plant Control Equipment," Instrumentation in the Power Industry, Volume 23, ISA, May 1980
"Qualification of Some Electronic Components," ANS Topical Meeting on Thermal Reactor Safety," April, 1980