



EDUCATION

University of Illinois - M.S. Material Engineering - 1981
University of Cincinnati - B.S. Nuclear Engineering - 1977

REGISTRATIONS

Professional Engineer – Arkansas, Illinois, Louisiana, Michigan, Mississippi, North Carolina, Ohio, Pennsylvania, Texas, Wisconsin,

EXPERIENCE

Mr. Demoss is a retired Sr. Vice President from Sargent & Lundy and has 40 years of mechanical and nuclear engineering experience. He was the chief Nuclear Mechanical Engineer for Sargent & Lundy for 6 years and directed the mechanical and nuclear engineering groups. Mr. Demoss was the Project Director for Sargent & Lundy's nuclear services for six Midwestern and Southern nuclear power plants and the SHINE Medical MO-99 Production Project. Mr. Demoss was also Project Director for the Owner's Engineer Services for NRG's STP Units 3 and 4 and Exelon's Project Victoria in Texas. Prior to this, Mr. Demoss was involved with the mechanical calculation program and the vertical slice design verification program for Tennessee Valley Authority's Watts Bar station. For the vertical slice project, he participated in development of a program plan, selection components for review, engineering assessment of the selected systems and components, development of an engineering checklist, and resolution of design basis discrepancies. He also assisted Tennessee Valley Authority in presentations to, and technical audits by, the Nuclear Regulatory Commission.

Mr. Demoss was previously assigned to Commonwealth Edison Company's Byron and Braidwood nuclear plant sites during initial construction as coordinator of onsite mechanical engineering and design activities associated with mechanical construction changes. He was responsible for review and approval of design and engineering changes in the field, resolving equipment design issues, resolution of piping support installation problems, resolving system and startup testing problems, and liaison between the client's construction personnel and the home office. In conjunction with this assignment, Mr. Demoss coordinated the resolution of mechanical discrepancies associated with the Byron quality reinspection program, the Braidwood Construction Assessment Program (BCAP) and prepared testimony for the Atomic Safety and Licensing Board hearings.

Mr. Demoss was instrumental in the preparation of Sargent & Lundy design standards for fire pumps, diesel generators, and piping specialties. Also, he served 25 years as a member of the National Fire Protection Association Committee 110 on Emergency Standby Power Systems. He began his employment with Sargent & Lundy as an engineering cooperative student in 1974 and joined the company full time in 1977. He was elected ASME Fellow in 2013.

His relevant experience includes:

New Generation:

- **SHINE Medical**
Project Director for Licensing and Preliminary Engineering for facility layout and design including preparation of Environmental Report and Preliminary Safety Analysis Report (PSAR). (2011 – 2016)

- **Victoria Units 1 & 2**
Project Director Owners Engineer activities including EPC Technical Requirements, site selection support; reactor technology review and assessment, design of plant cooling systems, site development, project schedule and cost estimates, and overall Project Management support. (2008 – 2009)

- **STP Units 3 & 4**
Project Director Owners Engineer activities including Project Management support, EPC Technical Requirements, and TG Specification Development. (2007 – 2010)

- **Byron Units 1 & 2**
Mechanical Project Engineer; onsite mechanical engineering lead for all mechanical engineering installation and start-up issues including piping and equipment. (1982 – 1985)

- **Braidwood Units 1 & 2**
Mechanical Project Engineer on site for coordination of Large Bore Piping, installation issues, start-up issues, and equipment installation (1985 – 1987)

DESCRIPTION OF ENGINEERING PERFORMED

Operating Units:

Entergy Operations, Inc.

Entergy Nuclear Operations, Inc.

- **Arkansas Nuclear Plant Units 1 & 2**
Project Director (2011 – present)
 - HVAC Upgrade Project (2012 – 2013)
 - Fuel Pool Cooling Studies (2012 – 2013)
 - Spent Fuel Cask Stack-up Study (2012)
 - NFPA 805 Common Feedwater Pump Addition (2014 – 2016)

- **Palisades Nuclear Plant**
Project Manager. (1991 - 1997)
Project Director (1998 - 2016)

- **Modifications**
 - SIRW Tank Repair Project (2012 – 2013)
 - Heater Drain Pump Upgrade (2013)

- Cooling Tower Replacement Project (2011 – 2012)
- Electrical MCC Upgrade Project (2011 – 2012)
- Auxiliary Building Crane Upgrades (2001 - 2003)
- ISFSI Design Engineering and Construction (2001 - 2003)
- IEB 96-06 SW Overpressure Analysis and Mods (1996 - 1999)
- IEB 79-14 Piping and Support Reverification Program (1992 - 1998)
- Containment Air Cooler Replacement (1994, 2007)
- Service Water System Piping and Valve Replacement (1993 - 1995)

- Station Battery and Charger Replacement (1995 - 1998)
- AFW Control Valve Upgrades (1996 - 1997)
- 96-06 SW Mods
- Station Security Upgrades (1996 -1998, 2002 - 2009)
- GSI-191 Containment Sump Upgrades (2006 -2009)
- NFPA 805 Plant Modifications/New AFW Pump (2014 – 2016)

- **Consulting Services**

- Switchyard Open Phase Studies
- Extended Power Uprate Expert Review
- Protection Against Malevolent Vehicles 10 CFR 73
- Dry Cask Fuel Storage System
- 10-Year ISI Interval Plan Update
- MOV and Check Valve Programs
- Maintenance Procedure Upgrade
- Decommissioning Cost Study Review
- Maintenance Procedure Upgrade
- EDSFI Closeout Evaluations
- Diagnostic Evaluation Support
- SSWOPI Support
- Appendix R Program Support
- Heat Exchanger Design and Testing
- Refueling Floor Model
- Third Party Self Assessments
- Design Guides and Standards
- Control Room Noise Level Assessments
- Diesel-Generator Assessment
- Charging Pump Assessment

- **River Bend Nuclear Plant**

Project Director (2010 – 2015)

- EBAR Snubber Project (2012 – 2013)
- DG Loading Analysis and Upgrades (2012 – 2013)
- EHC Chemical Flush Modifications (2012 – 2013)
- TCRIT Calculation and Upgrades (2012 – 2013)

- **Waterford**

Project Director (2010 – present)

- Cooling Tower Performance Assessments (2012 – 2013)
- Ultimate Heat Sink Water Replenishment (2011)
- Calculation Upgrade for Steam Generator Insulation (2010 – 2011)

- **Grand Gulf**
Project Director (2012 – 2015)
 - EPU Outage Field Engineering Support

- **Argonne National Laboratory**
Project Manager (1994 - 1996)
Project Director (1999 - 2004)
 - Rare Isotope Accelerator Preliminary Engineering - technical support
 - FP consulting
 - Radwaste consulting
 - Decommissioning support

- **Big Rock Point**
Project Manager (1993 - 1997)
Project Director (1998 - 2004)
 - Repowering Study
 - ECCS Analysis Support
 - HVAC System Support
 - Fire Protection System Design and Overpressure Protection
 - Decommissioning Licensing Support
 - Decommissioning Power System Design
 - Chemical Cleaning System Design
 - Instrument Air System Design
 - Decommissioning Work Packages
 - Reactor Vessel Removal Plan
 - Decommissioning Drawing Management
 - Containment Crane Upgrade
 - ISFSI Design

- **BNFL, INC.**
 - Big Rock Point Decommissioning Services
 - Design RPV Shipping Container

- **Donald C. Cook Nuclear Plant**
Project Manager (1992 - 1997)
Project Director (1998 - 1999)
 - Structural engineering services including turbine sump corrosion (1992 - 1996)
 - Multi-discipline engineering services in support of plant restart (1997 - 1998)
 - HVAC Heat Load Analysis for ECCS Pump Rooms
 - SW Temperatures Increase Analyses
 - SG Replacement Support Services
 - Calculation Index Development
 - Containment Liner Corrosion Analysis
 - Calculation Overview Project
 - Engineering Effectiveness Team Support
 - FSAR Update Project Support-
 - 50.59 Project Support
 - Fire Protection Program Support
 - Maintenance Rule Program Support

- Condensate Polisher System addition
- Auxiliary Boiler Replacement

- **Commonwealth Edison Company**

Byron 1 and 2 Site mechanical engineering. (1982 - 1985)
 Braidwood 1 and 2 Site mechanical engineering. (1985 - 1988)

Dresden 2 and 3 - Senior Mechanical Project Engineer (1990 - 1992)
 Quad Cities 1 and 2 Senior Mechanical Project Engineer. (1990 - 1992)

- **Perry Nuclear Power Plant**

Project Manager (1994 - 1997)
 Project Director (1997 - 2012)

- Backlog Reduction Program (1997)
- Containment Isolation Analyses (1996)
- Modification Scoping Studies (1996 - 1999)
- HWC System Design Engineer for GE (1998 - 1999)
- HWC Construction Management for GE (1998 - 1999)
- FSAR Update Project Support (1998)
- Tornado Missile Vulnerability Project (1998)
- Tornado Depressurization Project (1999)
- Site Security Work (2003 - 2004)

- **Davis Besse**

Project Director (2000 to 2012)

- Appendix K Power Uprate Design (2002)
- Condenser Upgrades (2002)
- CCW System Flow Analysis (2003)
- ASME Class 1 Piping Analysis (2002 - 2003)
- SW System Design Pressure Analysis (2002 - 2003)
- DG Load Analysis (2002)
- DG Starting Air System Upgrades (2002 - 2003)
- CCW Heat Exchanger Pressure Upgrade (2002 - 2003)
- Thermal Insulation Upgrades (2002)
- Control Valve Upgrades (2002)
- Containment Vessel Corrosion Evaluation (2002 - 2003)
- Design Basis Calculation Program (2000 - 2002)
- Site Security Work (2003 - 2004)
- Block Work Reconciliation (2003 - 2005)

- **Beaver Valley Power Station**

Project Manager (1996-1997)
 Project Director (1998 - present)

- FSAR Verification Project (1997-1998)
- Project Management Services (1998)
- Condition Report Program Support (1998)
- PEGGS Run Culvert Analysis (1999)
- Site Security Work (2003 - 2004)

- **Kewaunee**

Project Manager (1990 - 1994)

Project Director (2009 - 2016)

Dedicated design change engineering team (1989 -1994)

- Frazil Ice Mitigation Study (2006)
- JOG-MOV Upgrades (2010 - 2011)
- Switchyard Upgrade Project (2009 - 2011)

- Security Access Facility Upgrade (2009 - 2011)
- Heater Drain Pump VFD Upgrade (2010 - 2011)
- Plant Security Upgrades (2009 - 2011)
- DG Auxiliary Modification (2011)
- Service Water Pump Replacement (2009)
- Transformer Replacements (2009 - 2011)
- Electrical Calculations (2009 - 2011)

- **Palo Verde 1-3**

Mechanical Project Engineer (1990)

Engineering Design Guides and Standards

- **South Texas Project Electric Generating Station**

Project Director (2002-2012)

- LP FW Heater MEP Study
- IPE E/P Mod Project
- Site Security Work (2003 - 2004)
- Units 3 and 4 Owners Engineering Services

- **Watts Bar 1 and 2**

Mechanical Project Engineer

Mechanical calculation program design review of representative mechanical systems and resolution of design basis document discrepancies (1988 -1989)

STUDIES – CONSULTING SERVICES

- **Argonne National Laboratory**

Hazardous and radioactive waste storage facility.

Project Manager. Conceptual study. (1992)

EBWR Reutilization Study (1994)

Rare Isotope Accelerator Conceptual Design (2000 - 2004)

Fire Protection Overview Study (2003)

Building 350 Structural Design Assessment (2006)

- **Battelle Energy Alliance**

ATR Expert panel review of strategic upgrade

Commonwealth Edison Company.

Quad Cities 1 and 2

Senior Mechanical Project Engineer. Low-pressure service water system performance testing and evaluation. Evaluation of instrument air system capacity (1991)

- **Electric Power Research institute**
 Technical Assessment Guide for New Reactor Technologies (2006 – 2007)
 Advanced Light Water Reactor.
 Mechanical Project Engineer. Development of pressurized water reactor general arrangements for 600 MW passive plant. (1989)
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- **Entergy Fleet Wide Dry Fuel Storage Review** (2012)
- **First Energy Nuclear Operating Company**
 Fleet wide Project Management Assessment (2006)

MEMBERSHIPS

American Nuclear Society
 American Society of Mechanical Engineer (1980 - 2017) Elected ASME Fellow 2013
 Western Society of Engineers – President 2008
 NFPA Code 110 – Emergency Power Systems Committee Member (1996 - 2013)

PUBLICATIONS

ASME PVP 2013; Paper and presentation, ASME Codes Support Small Modular Reactor Development and Use – Unique Designs Require a Robust Code

Electric Power 2009, 2010, 2011, 2012, and 2013; Nuclear Track Chair and Session Organizer for New Nuclear Generation, May 2009, 2010, 2011, 2012, 2013.

ASME PVP 2008; New Nuclear Generation Technology Update, Panel Chair and Organizer, July 2008

Electric Power 2007, New Nuclear Generation Expert Panel, Panel Chair and organizer. May 2007

"Cost-Based Assessment of Decommissioning Alternatives and Financial Strategies", Co-Author with D. Williams, USGAO and Dr. J. Devgun, Sargent & Lundy, WM'05 Conference, February 2005.

"Nuclear Plant Decommissioning Optimization Through Repowering", American Power Conference, April 1996

"Changes in Cooling Water Characteristics Result in Corrosion at Coal-Fired Power Plant," Electric Power Research Institute (EPRI) Service Water System Workshop, April 1992

"Lake Erie and Lake Michigan Zebra Mussel Settlement Monitoring and Implications for Chlorination Treatment," American Power Conference, April 1992

"Report on Zebra Mussel Monitoring and Mitigation Programs," Sargent & Lundy General Engineering Conference, Chicago, Illinois, March 1992

"Initial Results of 1991 Veliger Settlement Monitoring Program with Implications for Timed Chlorination Treatment," EPRI Zebra Mussel Control Technology Conference, October 1991

"Zebra Mussel Control Strategies," American Power Conference, April 1991

"Design Features to Mitigate Fish, Zebra Mussel, and Other Macrofouling Plant Components," EPRI International Symposium on Macrofouling, December 1990