RESUME OF WILLIAM E. ALLMON

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SUMMARY

Mr. Allmon has experience in fossil and nuclear power plants, Department of Energy (DOE) facilities and a wide variety of industrial and manufacturing sites. His background includes advice and consultation (A&C), outage support, project management, contract transition teams, due diligence facility assessments, training, laboratory methods development, pilot plant testing, and basic and applied research. Mr. Allmon is a recognized expert in deposit formation on heat transfer surfaces in fossil and nuclear plants and had the technical lead on an EPRI-funded project to develop and experimentally validate a Monte Carlo risk-based deposition and corrosion assessment tool for fossil power plants. This project provided the technical justification for recent changes to the EPRI fossil chemistry guidelines.

EXPERIENCE

2013 – Present

ChemStaff Inc., Joliet, IL – Senior Consultant: Expert consultant for fossil and nuclear power plant chemistry, corrosion, troubleshooting, diagnostics, root cause analysis, industry and OEM (original equipment manufacturer) design and application guidelines for power plants, chemistry training, mathematical modeling and analysis, and expert witness services. Mr. Allmon is an experienced industry expert, coach, and mentor to staff and industry personnel and maintains mastery of all aspects of power plant chemistry and corrosion control. He is a sought-after speaker and consultant to the power industry. Mr. Allmon spent six months in 2016 advising the owner and the OEM during Hot Functional Testing (HFT) of a new plant in China. He spent several months in 2015 as the acting primary chemist at an operating plant in the US. He provided expert witness services in 2015 and 2016 on a large case involving turbine failure.

1998 – 2013

AREVA NP, INC., Lynchburg, VA - Advisory Engineer in Plant Chemistry & Corrosion Engineering: Mr. Allmon is an experienced, lead resource in the areas of water chemistry, corrosion control, ion exchange technology, process engineering and laboratory testing and services in AREVA's Plant Chemistry & Corrosion Engineering. Mr. Allmon spent eight months on assignment to AREVA Solar Inc. During this assignment, he lead a team of process engineers, production engineers and research and development personnel in the development and implementation of a plan to improve the performance and reliability of specialty coatings on solar boiler tubes for customers in Australia and India. Mr. Allmon was the team leader during 2007-09 for the

design, construction and initial commercial operation of AREVA's Chemistry and Materials Center (CMC), located at the Mount Athos Road (MAR) Facility in Lynchburg, VA. Mr. Allmon is a member of the industry committees that establish the Electric Power Research Institute (EPRI) specifications for primary and secondary systems in nuclear power plants. Mr. Allmon is a recognized expert in deposit formation on heat transfer surfaces in fossil and nuclear power plants and had the technical lead on an EPRI-funded project to develop and experimentally validate a Monte Carlo risk-based deposition and corrosion assessment tool for fossil power plants. This project compliments the development of similar mathematical modeling tools for AREVA's nuclear fuel customers. Mr. Allmon has participated in steam generator chemical cleaning and sludge removal activities at Palo Verde, Salem, Davis Besse, Waterford and Oconee commercial nuclear power plants and had a leadership role in the development of a process to coagulate and remove microscopic radioactive particles from the reactor vessel cavity after Abrasive Waterjet (AWJ) segmentation of reactor vessel internals underwater at Maine Yankee. Mr. Allmon has performed reviews of nuclear customer Final Safety Analysis Reports (FSAR) and prepared the 10CFR50.59 safety evaluations for several customers and provided supporting calculations and evaluations for engineering/design change packages (ECP/DCP) and fuel change packages (FCP) for several customers to support zinc addition programs, pH/lithium control programs, chemical degassing and forced oxidation.

1988 – 1998 **McDERMOTT TECHNOLOGY, INC., BABCOCK & WILCOX COMPANY, Alliance, OH - Senior Research Specialist:** Mr. Allmon led Due Diligence facility assessment teams and participated on contract transition teams for Decontamination and Decommissioning (D&D) and waste disposal at the US Department of Energy (DOE) Savannah River Site (SRS) and Mound Site; developed specifications and provided on-site training and consultation for Oxygenated Treatment (OT) at several fossil power plants; evaluated deposition in critical components of reactor coolant pumps at three foreign nuclear power plants; assisted with plant monitoring and performed a detailed evaluation that provided the technical basis for the first interim consensus water chemistry documents established by the Electric Power Research Institute (EPRI) for fossil power plants; established two Cooperative Research and Development Agreements (CRADA) with the National Institute of Standards and Technology (NIST) to develop and demonstrate a high-temperature Raman spectroscopy probe for chemical measurements at nuclear plant operating temperatures and pressures; sampled and investigated fouling in feedwater venturis; evaluated potential joint ventures (JV) in vapor compression desalination with a plate-type heat exchanger and conversion of biomass to ethanol; presented a seminar on laboratory QA at the International Water Conference (IWC); and performed pilot plant tests on removal of uranium and other radioactive and non-radioactive components from acid waste solutions produced during manufacture of nuclear fuel.

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1987 – 1988 **NUS CORPORATION, Pittsburgh, PA - Staff Chemist in the Field Operations and Training Division:** Mr. Allmon conducted training courses for nuclear and fossil plant customers, performed laboratory and field testing of alternate pH additives, developed Quality Assurance Programs (QAP) and provided A&C to customers on water treatment, purification and analysis.

1976 – 1987 **BABCOCK & WILCOX COMPANY, Alliance, OH - Research Chemist:** Mr. Allmon conducted basic and applied research on the solubility of chemicals in steam; conducted pilot plant tests at a power plant to evaluate deposition in critical components within the Breeder Reactor Plant (BRP) steam generator; directed a sampling and analysis project at an oversees power plant to determine the cause of intergranular stress corrosion cracking; acted as technical consultant to customer's QA departments; participated in design reviews; provided on-site consultation and analysis at Three Mile Island (TMI) after the 1979 incident; taught courses in applied chemistry; wrote specifications, directed testing and provided A&C on large pilot plants; developed a prototype expert system for process chemistry control; participated in a review of propulsion systems for US Department of Defense (DoD); and developed new analytical chemistry methods and instruments for specialty applications.

1975 – 1976 **PROJECT SEED, INC., Columbus City Schools, Columbus, OH - Math Specialist:** Mr. Allmon was a mathematics instructor for a unique program to teach algebra to disadvantaged elementary students.

1973 – 1975 **THE OHIO STATE UNIVERSITY, Columbus, OH - Laboratory Instructor for the Department of Chemistry:** Mr. Allmon instructed general college chemistry courses including classroom and laboratory.

AFFILIATIONS

International Association of the Properties of Water and Steam (IAPWS)

American Society for Testing and Materials (ASTM)

- Assistant Vice Chairman of Subcommittee D19.11
- Chairman of Section D19.11.01

American Society of Mechanical Engineers (ASME)

- Research Committee on the Properties of Water and Steam in Thermal Power Systems
- Utility Subcommittee on Water in Thermal Power Stations

EDUCATION

1976 **Bachelor of Science Degree in Chemistry**, The Ohio State University, Columbus, OH

1984 **Financial Accounting**, Baldwin Wallace College, Berea, OH

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Continuing Numerous courses including Project Management, Crucial Conversations, and Radiation Worker (RadWorker)

PATENTS

2014 *Apparatus and Method for Limiting and Analyzing Stress Corrosion Cracking in Pressurized Water Reactors,* US Patent 20140010339

2010 *Method for Positive Identification of Inner Surface and Outer Surface of Sample Flakes*, US Patent 7,822,259 B2 (20080069454)

2008 *Method of Determining the Power Transfer of Nuclear Component with a Layer of Material Placed Upon a Heating Surface of the Component*, US Patent 7,420,165 B1 (WO2008060327 A3)

1990 *High-Temperature Laser Induced Spectroscopy in Nuclear Steam Generators*, US Patent 4,907,883 (US4907883 A)

RECENT HONORS

2010 AREVA Engineer of the Year

2009 AREVA College of Experts, Level 1

COMMUNITY SERVICE

2003 – 2007 **Band Boosters of Heritage High School, Inc. -** Mr. Allmon was President of the Band Boosters of Heritage High School, Inc., Lynchburg, VA for two years and an officer for two additional years. During his tenure in that organization, he increased the annual funding for the local high school band from less than $30K to $150K on annual gross income of $750K by operation of a weekly bingo game under guidelines established by the Lynchburg City Schools, the Virginia Department of Charitable Gaming, the Virginia State Corporation Commission and the US Internal Revenue Service. He led a group of volunteers in this year-round endeavor and was personally contributing nearly 1,000 hours annually.

1995 – 1998 **Habitat for Humanity -** Mr. Allmon was a founder and the initial President of Habitat for Humanity of Minerva-Malvern, Inc., Minerva, OH.

PUBLICATIONS Mr. Allmon has published over 40 technical papers including serving as editor of the Power Plant Water Analysis Manual (ASTM, Philadelphia) and contributing to *Steam – Its Generation and Use* (Babcock & Wilcox, Barberton, OH).