

Dr. JOSEPH J. HOAGLAND

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EXECUTIVE SUMMARY

A senior executive with 30 plus years in energy science, technology research, and policy. Extensive experience in developing and managing organizations that research develop and deploy novel energy technology solutions. A recognized industry leader with wide ranging relationships that are leveraged to develop and fund activities to ensure successful application of new science in support of the energy system. A recognized leader in understanding developing and influencing energy policy at the local, state, and national level. A manager that believes in creating an environment where innovation can thrive and that supports the growth and development of staff.

CAREER SKILLS/KNOWLEDGE

- Executive Management
- Stakeholder and Customer Management
- Strategy
- Integrated Resource Planning
- Utility Regulation
- Strategic Policy Analysis
- Laboratory & Facility Management
- Technology Innovation/Assessment
- Energy Efficiency Program Development
- Grid Integration
- Extensive Media/Speaking Skills
- Strategic R&D Planning & Execution
- Organizational Redesign
- Benchmarking/Metrics
- Start-Up Operations
- Engineering Evaluation/Corrective Action
- Product Development/Marketing
- Teaching/Facilitating

CAREER EXPERIENCE

TVA, Vice President of Innovation and Research

2018 – Present

Executive responsible for all of TVA's research and development portfolio to achieve operational excellence in the existing power system as well as developing and evaluating new technologies to create the energy system of the future. Responsible for demonstrating and deploying new technology at scale and integrating it into TVA operations. Responsible for creating a culture of innovation across the entire TVA enterprise. Develops and implements the TVA strategy and vision regarding new technology and its impact on the evolving energy system. Develops personal and organizational relationships with key research partners within the industry, including EPRI, EEI, Oak Ridge National Lab, National Renewable Energy lab, Smart Electric Power Association, research universities in the TVA region including, UK, UTC, MSU, GT, University of Mississippi, University of Memphis, and Vanderbilt. Relationships are leveraged to develop programs, take advantage of funding opportunities, and create regional interdisciplinary teams to solve the complex problems facing the energy industry. Set up an organization to evaluate and capture opportunities for funding from the BIL and IRA infrastructure bills, for both TVA and all the regional customers in the areas of advanced nuclear, hydrogen, carbon capture, storage, electric vehicles, grid infrastructure, energy efficiency and operational improvement. Serves a TVA's Chief Scientist. Managed an operation budget of \$47M and leverage \$50m in capital for technology implementation. Currently includes 30 full time staff and another 40 matrixed staff.

TVA, Vice President of Enterprise Relations and Innovation **2013 – 2018**

Responsible for managing and engaging all of TVA's stakeholders at a personal level and as part of TVA's public engagement processes. Developed and executed TVA's award winning Integrated Resource Planning process designed to bring multiple perspectives and agenda together to create a product that can be supported by all stakeholders. Created a number of stakeholders working groups to develop solutions for complex policy and program challenges including renewable programs, aquatic weed management, river resource allocations, floating home regulations, and distributed resources. Responsible for all of TVA's research and development portfolio for achieving operational excellence and evaluating new technologies for all generation and grid infrastructure to achieve a modern integrated grid. Developed stakeholder working groups across the TVA customer segments to develop strategies and programs together to create an integrated modern grid system between TVA and all of its customers. These strategies are now being leveraged on potential federal funding opportunities. Responsible for innovation and strategic policy regarding the integration of technologies into the power system and responding to the changing utility business model. Responsible for TVA environmental strategy and compliance for major regulations. Worked extensively with regulators, legislators and other environmental stakeholders ensuring they were at the table for TVA decisions regarding compliance strategy. Served as TVA's Chief Technology and Science Officer.

TVA, Senior Vice President of Policy and Oversight **2012 - 2013**

Executive responsible to manage TVA's administrative programs including internal compliance, retail regulatory affairs, safety & health, physical security, and dam safety governance. Served as TVA's regulator for local distribution companies including rate, policy, and financial approval and compliance. Responsible for all of TVA's research and development portfolio, energy efficiency and demand response programs and stakeholder engagement including all external and internal communications. Managed a \$220M budget and a staff of approximately 600 employees.

TVA, Vice President and Chief of Staff, Office of the Chief Executive Office **2010 - 2012**

Served as CEO Senior Advisor and Chief of Staff. Responsible all activities in the CEO office including management of the TVA Board of Directors. Oversaw the office of Ombudsman for TVA. Revitalized TVA's distribution company regulatory role and established new process for ensuring compliance of regulatory issues. Represented TVA with the media on various technical matters. Worked with executive management to coordinate programs with the CEO and Board of Directors.

TVA, Vice President, Environmental Science Technology and Policy **2008 - 2009**

Responsible for overseeing environmental policy and technology innovation programs. Responsible for developing and assessing the impact of future environmental regulations regarding land, water, and air. Established an Office of Clean Energy Development and strategies for emerging renewable and carbon regulations. Managed research and development for TVA in energy efficiency, demand response, smart grid, alternative generation options and environmental technologies. Established and managed TVA's new integrated resource planning process. Managed a \$20M budget and a staff of about 40 scientists, engineers and economists.

Managed environmental and human health issues as part of the Kingston ash spill recovery program.

TVA, Vice President, Energy Efficiency Demand Response **2007 - 2008**

Developed and implemented a new energy efficiency strategy for TVA to reduce load using demand side and energy efficiency programs reduced TVA load by 1400MW in four years. Developed, implemented, and staffed an organization, developed business plan, processes, technology strategy, and marketing strategy. Implemented new market driven marketing program, to better ensure products developed would meet consumer needs. Worked with 150 TVA power distributors to develop a comprehensive framework to develop a Smart Grid within the Tennessee Valley. Oversaw the partnership with Oak Ridge National Labs and the Electric Power Research Institute for the

Campbell Creek Research homes, the electric vehicle infrastructure program, and TVA smart grid initiatives. Managed a \$100M budget and a staff of about 90 scientists, engineers and marketers.

TVA, Senior Advisor to the Chief Executive Officer **2006 - 2007**

Served as advisor to the CEO with responsibility for data gathering, analyzing, and interpretation of complex issues associated with TVA operations and providing the results of the analysis to the CEO. Responsible for identifying areas in which there were operational, coordination, strategic, or technical problems that require the attention of the CEO. Managed the development of presentations, speeches, and papers for the CEO to use with various audiences.

TVA, Manager of Special Projects, River Systems Operations and Environment **2004 - 2006**

Responsible for developing and overseeing a condition assessment for hydro production assets. Responsible for developing an overall asset management philosophy including development and implementation of the processes for asset assessment; helping to develop a framework to support condition monitoring, corrective action, predictive and preventative maintenance; and developing indicators for asset efficiency. Responsible for determining the market value of hydro generation including ancillary services to prepare for an unregulated utility market. Evaluated the value of energy storage as an energy and ancillary resource and its impact on the grid.

TVA, Senior Manager, Clean and Advanced Energy Technologies **2000 -2004**

Managed the R&D program for new energy production, storage, and distributed generation technologies including coal gasification and combustion, generation IV nuclear, fuel cells, flow batteries, combustion turbines, and diesel generation. Supervised a diverse group of engineers and scientists that developed, demonstrated, and evaluated new technologies. Managed TVA analytical laboratory and remediation development and demonstration facilities including wetland and aquatic research facilities, biomass fuel production facilities and agricultural research facilities and green houses. Served as the project manager and scientific lead for the technology assessment associated with the Regenesys energy storage project in Columbus Mississippi. General responsibilities included budgeting, procurement, resource allocation, technical problem solving, technical evaluation, project management, market analysis, benchmarking, and business development. Managed a budget of \$25M and about 100 scientists and engineers.

TVA, Various Manager and Chemist Positions **1992 - 2000**

Washington State University, Graduate Research Assistant **1987 – 1992**

Southern Utah Water Testing Center, Supervisor and Quality Control Officer **1985 - 1987**

EDUCATION

Ph.D. Physical Chemistry	Washington State University
M.S. Physical Chemistry	Washington State University
B.S. Chemistry	Southern Utah University

PROFESSIONAL ACTIVITIES AND BOARDS

- **Adjunct Professor UT Howard Baker School of Public Policy (2023 – Present)**
- **Member of the Board of Directors Cherokee Farm Development Corporation (2022 – Present)**
- **Chair of the Tennessee State Energy Policy Council (2018 – Present)**
- Senior Energy Policy Fellow for the Howard W. Baker Center for Public Policy (2015 – 2018)
- Member of the Board of Directors for AMSE Foundation (2020 – present)

- Member of the Executive Committee of Board of Directors for the Smart Electric Power Association (2015 – Present)
- Member of the Board of Directors for the Consortium for Advanced Simulation of LWR's (2011 – 2016)
- Member and Chair EPRI Research Advisory Committee Executive Committee (2009 – Present)
- Member Oak Ridge National Lab Energy and Engineering Science Advisory Committee (2009 – 2011)
- Member Howard H. Baker Center for Public Policy Energy and Environment Advisory Board (2009 – 2011)
- Member Tennessee Governor Task Force on Energy, Clean Energy Technology Working Group (2008)
- Member of the DOE National Action Plan for Energy Efficiency Working Group (2007 – 2009)
- Member of the Board of Directors Southeastern Energy Efficiency Association (2007 – 2008)
- Chairman, Hydro Productivity Committee for the EUCG (2006 – 2007)
- Member of the DOE Fusion Energy Sciences Advisory Committee (2002 – 2004)
- Member of the Board of Directors for Electricity Storage Association (2000 – 2003)
- Chairman, EPRI Clean Coal Working Group (2000 – 2002)
- Member of the Federal Remediation Technology Roundtable (1998 – 2000)
- Member of the American Chemical Society, Chair of Wilson Dam Section, Chair - Elect, and Secretary (1987 – 1990)
- Member of Phi Lambda Upsilon. Past president of Chi Chapter, Secretary, and Treasurer (1988 – 1992)
- Member of Sigma Xi: The Scientific Research Society (1991 – 1997)

HONORS

- Graduate, Shoals Leadership Development Program
- American Chemical Society, Wilson Dam Section, Chairman's Award
- TVA Resource Group Recognition for External Business Development
- Tennessee Valley Authority Technical Suggestion Award
- Phi Lambda Upsilon, Chi Chapter, Outstanding Graduate Student Award
- Battelle Pacific Northwest Laboratories Energy Related Research Fellowship
- Julian Culbertson Teaching Fellowship
- WSU Graduate School Summer Research Award

PUBLICATIONS

Hoagland J. J., Hippias K. W., *A Vibrational Study of Tetracyanoethylene Adsorbed on Magnesia*, Proceedings of the NATO Advanced Study Institute Surfaces and Interfaces of Ceramic Materials, edited by Dufour L-C., Monty C., Petot-Ervas G., Kluwer Academic, (1989), 152.

Hoagland J. J., Hippias K. W., Tetracyanoethylene Adsorption on Magnesia Activated below 410 C: An IR Spectroscopy Study., *Langmuir*, 5, (1989), 849.

Hippias K.W. Dowdy J., Hoagland J.J. Surface Raman Spectra of a Biased and Buried Ultrathin Copper Pthalocyanine Layer, *Langmuir*, 7, (1991), 5.

Hoagland J.J., Dowdy J., Hippias K.W., Raman Spectral Studies of Al-AIO_x-MPC-M' Tunnel Diodes: Bias and Top Metal Dependence, *J. Phys. Chem.*, 95, (1991), 2246.

Dowdy J., Hoagland J.J., Hippias K.W., Infrared and Raman Spectroscopic Study of Ultra-thin Copper Pthalocyanine Films Vapor Deposited on Oxidized Alumina, *J. Phys. Chem.*, 95, (1991), 3751.

- Hipps K.W., Hoagland J.J., Top Metal and Bias Effects in the Tunneling Spectrum of Copper(II) Pthalocyanine, *Langmuir*, 8, (1991), 2180.
- Hoagland J.J., Wang X.D., Hipps K.W., Characterization of Cu-CuTCNQ-M Devices Using Scanning Electron Microscopy and Scanning Tunneling Microscopy, *Chemistry of Materials*, 5, (1993), 54.
- Harris Mark, Hoagland J.J., Mazur Ursula, Hipps K.W., Raman and Infrared Spectra of Metal Salts of \square, \square -dicyano-p-toluoylcyanide (DCTC): Non-resonant Raman Scattering in Tetracyano-p-quinodimethanide (TCNQ), *J. Phys. Chem.*, **98**, (1995).
- Hoagland J.J., Almond R., Summers, R.K., Utilization of Hot Gas Decontamination, 1998 *JANNAF Propulsion And Subcommittee Joint Meeting Proceedings*, (1998).
- Sikora F.J., Almond R.A., Behrends L.L., Hoagland J.J., Kelly D.A., Phillips W.D., Rogers W.J., Summers R.K., Thronton F.C., Trimm J.R., "Demonstration Results of Phytoremediation of Explosives-Contaminated Groundwater using Constructed Wetlands at the Milan Army Ammunition Plant", U.S. Army Environmental Center, Publication Number SFIM-AEC-ET-CR-97059, (1998).
- Broder M.F., Hoagland J.J., Kelly D.A., Phillips W.D., Rogers W.J., "Microbial Weathering Study of Composted Explosives Contaminated Soil Obtained from the Umatilla Army Depot Activity", U.S. Army Environmental Center, Publication number SFIM-AEC-ET-CR-98042, (1998).
- Almond R. A., Broder M.F., Hoagland J.J., Kelly D.A., Rogers W.J., Strickland R.C., Sisk Wayne, "Plant Uptake of Explosives-Contaminated Soil Obtained form Umatilla Army Depot Activity", U.S. Army Environmental Center, Publication number SFIM-AEC-ET-CR-98043, (1998).
- Behel A.D., Pier P.A., Westmoreland R. A., Almond Broder M., Kelsoe J.J., Hoagland J.J., Kelly D.A., Rogers W.J., Bader D.F., May I., "Final Report on the Demonstration Results of Phytoextraction of Lead-Contaminated Soil at the Twin Cities Army Ammunition Plant", U.S. Army Environmental Center, Publication number SFIM-AEC-ET-CR-200045, (2000).
- Taylor R., Hoagland J., Bradshaw D., Proceedings from ESSAT, "Energy Storage for Ancillary Services", ESSAT 2002, (April 15-17, 2002).
- Maddigan Ruth, Stephens Ed, Hoagland Joe, Ellis James, "Valuing the CO₂ Footprint Impact of a Transition to Electric Vehicles in the Tennessee Valley", Northeast Business & Economics Association 36th Annual Conference, (November 6, 2009).

