

2024

USDOE Consultant
SBA Grant Reviewer

2020 – 2023

Richard Heath & Associates
Battery Programs

2014-2019

RagingWire Data Centers
Director of Mechanical Engineering

2014

Partner Energy
Energy analyses, modeling; commissioning; specification of energy efficiency improvements; regulatory reports

1992-2014

R. P. Wichert, P. Eng.
HVAC design; plumbing design; cogeneration design; custom process design.

1998-2011

Engineering, Research, and Communications
US Fuel Cell Council
Technical Director and consulting on fuel cell technologies

1976 – 1997

Sacramento Municipal Utility District

1992 – 1997

Advanced & Renewable Technology Program Supervisor
Advanced & Renewable Technology Development Program.

1990 – 1992

Generation Planning Supervisor
New generation system planning.

1987 – 1990

Plant Performance Manager, Technical Support Superintendent
Power plant management, engineering, and technical support.

1976 – 1987

Power Plant Engineer

Robert P. Wichert, P.Eng.

Robert P Wichert Professional Engineering, Inc.
6342 Parkcreek Circle
Citrus Heights, California 95621
916-712-4481
robert@wichert.org

Summary of qualifications

Registered Professional Engineer in California and Virginia with NCEES Record

NTT Data Center Engineer Training Level 2

California Self Generation Incentive Program Developer Status

Building Commissioning Agent

Former Master's Degree Candidate in Communication Studies with emphasis in Mass Communications, Inter-Cultural Communications and Issue Management.

Board of Directors, Sacramento Suburban Water District

Former member of ASME, IEEE, NFPA, and ASHRAE

Former member of NFPA Power Plant Fire Safety Committee and Hydrogen Safety Committee

Former California Div. of Industrial Safety Certified Crane Inspector

Former ASNT TC-1A certified Level 2 Test Engineer with experience in system and component testing of mechanical, electrical, fluid, and vehicle systems

Education

University of California, San Diego

University of California, Berkeley

California State University, Sacramento, B.S.M.E. 1977

California State University, Sacramento, Communication Studies

Representative Projects

Confidential Data Centers in Sacramento, California

In collaboration with custom fabricators, implemented a rugged solution to enable air-side economization immediately that continues to work perfectly four years after the changes. Responded to chiller control lockups in collaboration with the manufacturer to implement upgraded control software to solve the problem permanently. Implemented a system-wide energy use reduction program that saved \$900,000 in less than six months.

14MW Confidential Data Center #1 in Ashburn, Virginia

I developed operating methods that met the functional needs of the Owner within the available facility constraints to recover from commissioning failures. Successfully conceived of non-litigious resolution of the Engineer-of-Record's errors, omissions, and shortcomings; recovering fees without a lawsuit. Implemented emergency humidity control and avoided client contract violations. I subsequently managed a design change to provide additional humidity control and eliminate infiltration.

16MW Confidential Data Center #2 in Ashburn, Virginia

Managed contract engineering firms, Professional Engineers, and engineering resources. Approved Engineering designs, specifications, and contractor submittals. Worked with the Engineer of Record to implement a higher temperature-rise design while accounting for operation during failures and transients. Met the demanding requirements of a hyper-scale client to finalize their move-in.

Self-Generation Incentive Program (SGIP)

Customer acquisition and contract development; SGIP applications and funding reservations; site assessments; system design; building permit acquisition; interconnection approval; installation; commissioning; and customer experience optimization.

Operations Support Projects

Energy reductions, failure analysis, design reviews, contract administration, performance monitoring, specification writing and review, engineering management. Commissioning and re-commissioning support. Field surveys. Cooling load calculations. Chiller plant design and operation. Requests for Proposals.

California Tax Credit Allocation Committee Renovation Projects

Project assessments; efficiency improvement measure development; project modelling; construction monitoring and verification; post-construction modeling; commissioning, reports and documentations.

Mechanical and Electrical Experience

Data center design and operational technical support

Preparation of specifications, bid documents; issuance and responses to RFPs, RFQs, and RFIs; contract preparation and negotiation; contract management.

Expertise in Battery Storage (Tesla and Enphase), Energy Modeling (EnergyPro), Data Center Design and Operation, Root Cause Analysis, HVAC, materials, failure analysis, system testing, controls, performance monitoring and testing, energy analysis, fluid flow, metrology, CAD, project management, economic analysis, CPM, piping, turbines, pumps, motors, compressors, fire protection engineering, and systems engineering

California electric utility experience: battery deployments; solar and PV applications; wind applications; advanced energy efficiency; resource demonstrations; fuel cell applications; project management; national and international technical transfer; resource procurements; technical support engineering; generation planning and operations; power plant licensing and regulation; renewable energy applications and sales.

Backup and load shaping battery installation design, construction, commissioning, and user optimization.

Energy Studies, Energy Analysis, and Energy Modeling (EnergyPro)

Mechanical Engineering Piping, Plumbing, HVAC and Process Design

Hazardous material transport regulations, standards, and recommendations for compliance

Personally responsible for the first Customer-Choice All-Renewable Electrical Energy Option in California – SMUD Greenergy®.

Ideation and development of fuel cells for uninterruptible power supply use in utility service.

Positions Held

Data center design and operational technical support engineer

Director of Mechanical Engineering

Electrical Maintenance Superintendent

Power Plant Performance Department Manager

Senior Manager

Utility Generation Planning Supervisor

Advanced and Renewable Technology Superintendent

Instrumentation and Control Department Superintendent

United Nations Sub-Committee of Experts on the Transport of Dangerous Goods – Consultative NGO Status

International Civil Aviation Commission Dangerous Goods Panel – Participatory Observer Status

US Fuel Cell Council Management – Technical Director

Member of IEC Technical Committee 105 – Fuel Cells

Member of ISO Technical Committee 197 – Hydrogen Member of CSA International Technical Advisory Committees

Former member of UL Standards Technical Panels including UL 1741

Member of NFPA Power Plant Fire Safety Committee and Hydrogen Safety Committee

IEEE Standards Association and IEEE 1547 development.

Publications

What If The Grid Were The Backup? Distributed Fuel Cell Power and Its Implications for

Electric Utilities; 1992 DOE Fuel Cell Seminar, co-author, Robert Rose

Valve Leakage Detection; A Case Study, ASME Proceedings

Biogas, Compost and Fuel Cells; BioCycle, August 1994

Carbon Trading & Hydrogen – Possibilities and Pitfalls; Ayres, Rose, Lloyd, Wichert

Affiliations and Awards

International Electrotechnical Commission **1906 Award**

Chairman of ASME PTC 50

ISO TC 197 Tech. Advisory Group

IEEE P1547 Writing Committee

CSUS Alumni Award

UL 1741 Writing Committee

NFPA Power Plant Fire Protection Committee

IEC TC 105 Tech. Advisory Group

PVUSA Steering Committee

California Alliance for Distributed Energy Resources