

Mr. Hadden has over 20 years experience developing electronic instrumentation, monitoring, and control systems for mechanical and electrical systems. He develops tools supporting utility decision making in advanced metering and customer interaction technologies. He conducted market and technical research for the Electric Power Research Institute (EPRI), supported utilities applying advanced customer and distribution communications, defined demand-side technology programs, and guided developments in home automation.

Mr. Hadden was principal investigator for numerous studies of the value produced by advanced metering and meter reading. Commissioned by utilities considering advanced metering infrastructure (AMI) procurement, this work identified the business benefits for each utility client and supported top management strategy deliberations. Some of this work also defined the value produced by load control in newly restructured regional energy markets. Comparing value to cost allows informed decision-making that clarifies benefits and risks.

Mr. Hadden was also a key contributor to the definition of utility technical requirements for advanced end-use and demand-side management programs. He directed design and integration of the Electric Smart House advanced home automation system. He led numerous utility projects in prepayment electric service, and is familiar with the technical, economic and business issues of prepayment service for both the utility and its consumers. He has analyzed the implications of prepayment for more than half a dozen utilities, and has presented results at national utility meetings.

Under contract to EPRI, Mr. Hadden managed the UCA Exchange for seven years. The Exchange was a national clearinghouse for information on utility communication protocols and related database standards. In this role, Mr. Hadden was a key contributor to strategy to deploy systems that maximize utilities' future opportunities to serve customers, at acceptable technical risk, within economic constraints, and compatible with existing systems.

Relevant Experience

AMI Acquisition

City of Seattle, Washington

Lead Engineer and Business Strategist. This included Business Case, Proposal Evaluation, Vendor Selection, Contract Negotiation Assistance, and Future Acceptance Testing.

AMI Evaluation

Unitil Corporation, New Hampshire and Massachusetts

Lead Engineer and Business Strategist. Mr. Hadden led this project that included a business case, request for proposal (RFP), proposal evaluation, vendor selection, contract negotiation, deployment plan, and acceptance test.

AMI Technology

California Public Utility Commission, Division of Rate Payer Advocates

Expert Witness. Mr. Hadden is currently serving as the AMI technology expert witness for the State of California as it evaluates the AMI acquisition and deployment plans of the State's three large investor-owned utilities. This is a comprehensive due diligence assignment supporting the State's formal legal proceeding. Mr. Hadden is assessing the reasonableness and correctness of the AMI plans the utilities have proposed in response to Commission orders.

AMI Request for Proposal and Vendor Selection

DTE Energy, Michigan

Lead Engineer and Business Strategist. Mr. Hadden guided the preparation of the requirements definition and request for proposals, the proposal evaluation tools, and process. He also participated directly in proposal evaluation as a member of the utility evaluation team, in addition to guiding the initial contract negotiation positions.

Guide to Smart Metering

Edison Electric Institute, Washington D.C.

Lead Engineer and Business Strategist. Mr. Hadden was one of two principal authors of the prominent "Guide to Smart Metering" commissioned by the Edison Electric Institute for its members and the regulatory community. The Guide interprets the metering implications of the Energy Policy Act of 2005 and describes in detail valid and successful methods for evaluating smart metering alternatives.

Strategic Guidance in Metering and Customer Technology Investments

Central Vermont Public Service Corporation, Vermont

Lead Engineer and Business Strategist. Over the past 20 years, Mr. Hadden has supported CVPS in more than a half dozen separate engagements to support metering, meter reading, and meter automation strategy and acquisition. Mr. Hadden guided CVPS through a full acquisition of handheld meter reading equipment, including requirements definition, RFP, proposal evaluation and contract negotiation. Mr. Hadden also guided the complete AMI assessment process including technology assessment, benefits estimation, full business case development, presentations to senior management and regulators, requirements definition, and RFP. CVPS currently plans to acquire and deploy AMI starting in 2009.

Automated Systems Division

General Electric

Design Engineering Manager. Mr. Hadden was responsible for all aspects of system design from concept to production. He joined the technical staff there in 1972 and conceived innovative approaches to electronic sensing, monitoring and signal processing for mechanical and electrical systems, and he led and managed engineering teams implementing them in hardware and software. His efforts included system conception, specification, implementation, and test in the lab and the field.

Analysis of AMI Opportunities

Sacramento Municipal Utility District, California

Lead Engineer and Business Strategist. Mr. Hadden led this project that included cost and benefits of an AMI business case.

Industry Engagements

- An invited speaker at national and international meetings, and has taught courses to industry audiences covering the areas of his expertise.
- Served on the Industry Advisory Committee to the University of Massachusetts as it formulated the engineering physics curriculum for its U. Mass Boston program.
- Published many papers, one winning the prestigious international SAE Vincent Bendix Award for excellence in electronics engineering.
- Member of the Automated Meter Reading Association and the Power Engineering Society of the IEEE.
- Serves on the Program Committee for the AMRA national meeting.
- Conducted graduate work at the University of Michigan, received formal corporate training in management and software engineering, and the completed Program on Negotiation for Senior Executives at Harvard Law School.
- Holds seven U.S. patents in sensing and signal processing.