

Edmund P. Finamore, P.E.

Background and Selected Project Summaries

Edmund P. Finamore, P.E. is a recognized authority on AMI installation with over 38 years of experience in utility and high technology environments. As President of ValuTech Solutions, Mr. Finamore has provided written and oral expert witness testimony for major electric utility proceedings, and has worked on technology solutions with some of the largest utilities in North America. Mr. Finamore has authored many articles on utility automation, and his writings have appeared in leading industry publications in the U.S. and Canada. ValuTech Solutions is a management consulting firm that focuses on utility automation and AMI strategies, technology evaluation and installation.

As Project Manager for Duquesne Light Company's AMI network in the 1990's, he pioneered the installation of one of the most fully integrated AMI systems in the world. While at Duquesne Light, Mr. Finamore was responsible for implementing Duquesne's sophisticated AMI network architecture which involved integration of point to point, point to multi-point, wireless and telephone-based systems into one overall network structure that utilized both out bound polling and inbound call techniques as well as mobile and handheld data collection methods. Advanced meter data collected through MV-90 was processed to Duquesne's billing and energy supplier reconciliation systems. Many of the network's components were utilized for the first time ever in a commercial AMI environment.

Over a lengthy career, Mr. Finamore has provided expert testimony and managed or participated in many utility automation projects, including extensive work on energy efficiency, customer information systems (CIS), outage management systems, and re-engineering of the new business process. Under his pioneering leadership, Duquesne Light succeeded in integrating its network AMI system with the company's outage management functions, which significantly improved outage response time by identifying outages down to the meter level in near real time, the earliest known application of this type. While a member of Duquesne's management team, Mr. Finamore played a leading role in the restructuring the company for utility deregulation and into a process based organization.

Mr. Finamore has worked with many AMI technology companies (including Advanced AMR Technologies, FirstPoint Energy, SpeedRead Technologies, AMR Systems S.L., and Datamatic) involved in developing AMI applications and communications technologies to meet the demands of a rapidly changing industry that is increasingly focusing on smart metering, smart grid and demand response applications. Among his many industry contributions, he is currently working with other technology partners to launch Sun Build Cooperative, a non-profit solar energy cooperative created to support the growing market for renewable energy sources.

Prior to forming ValuTech Solutions, Mr. Finamore was Vice President of Corporate Development for Tensleep Corporation, and was responsible for strategic acquisitions and sales channel development for energy management products used in deregulated energy markets by end-use customers, energy suppliers and electric utilities. Mr. Finamore has received electrical engineering and MBA degrees from the University of Pittsburgh, and is a Licensed Professional Engineer in the Commonwealth of Pennsylvania, USA.

Selected AMI Project Experience

Exelon Corporation- Develop AMI Implementation Strategy and Evaluate Candidate AMI Systems For ComEd (6.6 million clients)

ValuTech Solutions played a key role in the development of an appropriate AMI strategy to meet Commonwealth Edison's overall corporate objectives. Working with Enspira Solutions, the consulting team worked in collaboration with ComEd's internal cross functional AMI organization to evaluate ComEd's high level functional and integration requirements, identify system impacts and interfaces and recommend appropriate technology solutions and deployment strategies for ComEd's 4 million meters.

Mr. Finamore's efforts Supported a multi-faceted vendor evaluation process and helped to develop a sophisticated vendor scoring methodology that was used to evaluate vendor proposals involving complicated, hybrid solutions. The consulting team drafted RFP documents that encouraged vendors to submit creative solutions and management approaches, which provided quality bids that could form the basis for firm project cost and schedule estimates.

Status: Project completed.

Office of the Ohio Consumers' Counsel- Provide Expert Witness Testimony In connection with Duke Energy (7.2 million clients) and AEP (5.3 million clients) Smart Metering/Smart Grid Rate Case filings

Mr. Finamore was engaged by the Ohio Consumers' Counsel in 2008 to provide expert witness testimony in connection with rate case filings submitted by Duke Energy and AEP-Ohio. These filings were submitted to support Electric Security Plans that were developed to meet the energy efficiency and demand response requirements of Senate Bill 221 which became law in May 2008, and which requires a 25% contribution towards peak system demand from advanced and renewable energy sources by 2025.

Mr. Finamore served as the OCC's expert witness with regard to smart metering and smart grid technology proposals, benefits and costs as it formulated its position on the validity and justification for the smart metering/smart grid plans. Mr. Finamore provided written and oral testimony on the OCC's behalf in the Commission proceedings and assisted with the formulation of policy recommendations for implementation of the AMI, distribution automation and home area network (HAN) components of the utility filings.

Status: Ohio Public Utility Commission rulings were completed and resulted in industry leading decisions on the method of approving large AMI projects.

Iberdrola (RGE & NYSEG- 1.8 million clients)- Support Business Case Development and Preliminary Implementation Plan For New York State Public Service Commission

Working with Gestalt, Mr. Finamore participated in the development of AMI business cases for Energy East's New York subsidiaries Rochester Gas and Electric (RG&E) and New York State Electric and Gas (NYSE&G). This high profile project included the analysis of business requirements and all cost and benefits associated with deployment of AMI technology. The project included the development of an AMI implementation strategy and proposed implementation plan to comply with an August 2006 Order by the New York State Public Utility Commission to file these plans.

Upon completion of this initiative, an Advanced Metering Infrastructure Overview and Plan was prepared in February 2007 for filing with the Commission which provided a series of implementation alternatives that Energy East could pursue to meet Commission requirements. These plans, along with plans submitted by other New York State utilities, are currently awaiting approval by the Commission to move forward as it pursues a state-wide AMI implementation strategy through its Proceeding on the Matter of Competitive Metering.

Status: Study was successfully completed

Saint John Energy, Saint John, NB- Prepare AMI System Request For Proposal and Coordinate Vendor Selection Process

Mr. Finamore was engaged by SJE to help select an AMI system that would provide meter reading efficiencies and would support their plans for implementation of load control for their many electric water heater clients. This assignment was especially challenging because SJE had been piloting an AMI system for a number of years, and needed an independent evaluation of its ability to support load control. An RFP was developed that solicited a range of options to further deploy the current piloted system or select a different AMI system provider.

This RFP produced a number of significant proposals that enabled SJE officials to review different deployment options and select a proposal that would provide the necessary efficiencies and benefits. Mr. Finamore coordinated the vendor selection process and developed an evaluation methodology that enabled the SJE project team to weigh different factors such as technical capability, deployment methodology and cost. Various proposals have been examined for proper alignment with SJE's business plan, and officials are currently examining budgetary and customer service issues before making a decision as to how to proceed.

Status: Project budget is under review.

City of Red Deer, Alberta- Develop AMI Business Plan, Conduct Technology Review and Prepare Preliminary Implementation Plan

Working with the Structure Group, Mr. Finamore prepared a business plan for AMI implementation and developed a financial model for use in calculating the return on investment and net present value of the estimated capital and O&M expenditures. This plan took into consideration that the City of Red Deer would be examining the potential for enacting future time-of-use rates which would require an AMI system with demand management capabilities to implement. Red Deer also wanted a combination system that could be used both for Electric Light and Power and Water Division meters, and the business

plan model prepared by Mr. Finamore demonstrated that a combination electric and water system would produce the best rate of return. The Structure team provided an analysis of various AMI technology options and developed a preliminary implementation plan for a multi-year rollout. Once Red Deer's City Council has approved the plan and associated capital budget, and the City will move ahead with the RFP and vendor selection process this year.

Status: Project successfully completed.

City of Wyandotte, Michigan- Provide AMI Technology Assessment, Procurement, Vendor Selection For Combined Electric and Water AMI Implementation

The City of Wyandotte, Michigan is a municipality consisting of 28,000 residents, with City supplied electric, water/wastewater, and CATV services. Mr. Finamore was engaged to perform a technology assessment to provide a leading edge communications network capable of providing AMI, load management, advanced time-of-use metering and other associated services such as security and emergency alerts for police, fire and EMS.

The City's AMI solution was expected to provide reads for both electric and water meters as well as address the ongoing need for advanced metering for commercial and industrial accounts and time-of-use. Mr. Finamore worked with the city to refine their requirements, identify and understand the required project interfaces and weigh the options of using the City's extensive fiber optic network in lieu of more conventional wireless and telephone based AMI alternatives.

Based on these discussions, a request for information was prepared to obtain the latest technology advancements. A wide range of alternatives was examined, and a forward looking multi-tiered approach was adopted that will provide a base level of services while preserving the option to implement additional advanced services in the future. Mr. Finamore evaluated the results, prepared a Request for Proposal and coordinated the evaluation of vendor proposals.

Status: AMI system was successfully installed.

Piedmont Natural Gas Company- Supported Vendor Selection Process and Contract Negotiations

Played a supporting role in the vendor evaluation process by helping PNG to negotiate a favorable vendor contract for a mobile AMR solution. Evaluated contract documents, service and maintenance agreements and warranty provisions to ensure that PNG would receive the maximum benefits of the AMR installation at the best cost.

Provided valuable input concerning various installation strategies that could help ensure the project remained on budget and schedule after contract signing. Identified various contract provisions that should be modified to streamline the installation process and avoid ambiguities that could cause problems in the future.

Status: Deployment in Progress

City of Bowling Green, Ohio- Evaluate Current Mobile AMR Deployment and Develop Requirements and Implementation Plan For Transition to Electric and Water Fixed Network AMI System

The City of Bowling Green, Ohio is a combination electric and water utility that has been deploying mobile AMR technology over a period of years, and has recently decided to explore options for conversion to a fixed network AMI system. Mr. Finamore was retained to evaluate the current situation from a technology standpoint, develop a migration strategy for migration to a fixed network and prepare the associated business case to determine if the transition can be financially justified.

Working with the City's staff, Mr. Finamore examined the unique conditions associated with removal of a nearly fully deployed mobile AMR system, scrapping or recovering the costs of the City's partially depreciated equipment and evaluating the associated financial impact. A deep knowledge of existing AMI technologies, current partnering and business relationships among AMI vendors and potential cost recovery opportunities was needed to develop a viable transition plan, which to our knowledge has not been successfully performed at any other City in the U.S.

Currently, under Mr. Finamore's guidance, the City has moved ahead with selection of an Aclara combined AMI system with full load control, and has completed contract negotiations. Mr. Finamore is presently coordinating the overall AMI installation and implementation plan, with network implementation expected to begin within 60 days.

Status: AMI system was successfully installed.

Lake Country Power- Conduct Business/Implementation Plan Evaluation, Provide Contract Negotiations Support

For several years, Lake Country Power, located in Kettle River, MN, had been evaluating AMI technologies with a goal of obtaining four essential services from its AMI system: (a) reliable, timely meter reads, (b) energy theft and tamper detection, (c) load mgmt and curtailment services and (d) outage detection. Their previous technology assessment had concluded that power line carrier technology would be the best choice for providing AMI services to LCP's mostly rural service area. A lead vendor, Cooper/Cannon, had subsequently been selected, and discussions were commencing to finalize costs and complete vendor negotiations.

Mr. Finamore was requested to review the business plan, analyze the vendor's equipment pricing and implementation costs, evaluate the implementation plan and assist with contract negotiations. It was determined that LCP's business case had included most reasonable savings and offsets, but had not adequately considered all benefits including the timing of certain elements which would effectively improve its overall business case.

In addition, performance criteria were introduced to assess performance during the early as well as later stages of implementation for this multi-year project. The implementation plan was subsequently adjusted to provide for an early stage evaluation of the vendor's technology, and the vendor deliverables were better timed to reflect the ongoing status of project implementation.

Upon completion of this review, and following additional discussions with the vendor pertaining to certain financing requirements of LCP's lending agent, Mr. Finamore assisted LCP in developing a financing package that satisfied the lender while supporting a deployment timetable that met LCP's installation and operating criteria. Vendor negotiations were subsequently concluded and network installation efforts were recently completed.

Status: AMI system was successfully installed.

Duquesne Light Company, Pittsburgh PA- Develop and Install an Industry Leading Full System AMI Network (600,000 clients)

In 1995, Duquesne Light Company began a serious analysis of available AMI technology with a goal of implementing a system-wide solution for its 580,000 customer accounts. During that year, a technology assessment team was created to evaluate available technologies and obtain the best solution to meet Duquesne's internal AMI objectives. As the leader of that team, Mr. Finamore was responsible for evaluating multiple RFPs to narrow down the technology options, prepare a vendor short list and enter into contract negotiations, which led to the selection of Itron as the system solutions provider.

The project business case was driven by several project objectives: provide a system that produced significant operational savings and new revenue opportunities; select a technology that was both forward and backward compatible to ensure continued future technological viability; and structure an agreement that minimized Duquesne's technology risk. A three phase implementation process was developed: a 5,000 point pilot phase to demonstrate the technology, a second phase designated for total network rollout and a third system operation phase when the system would be operated over a minimum 15 year period. As Project Manager, Mr. Finamore was responsible for developing the overall project strategy including system build-out, overseeing contract negotiations (including development of system performance criteria) and managing system deployment.

Under Mr. Finamore's oversight, a multi-tiered, fixed cost pricing schedule was developed based on projected meter growth over 15 years and pricing options for monthly reads, demand reads, time-of-use and real time pricing, that if fully exercised at Duquesne's discretion could lead to vendor outsourced data costs exceeding \$150 million. During this 15 year period, Duquesne anticipated incurring benefits from base operations, enhanced operations, improved system reliability and deregulated customer choice that could exceed \$400 million.

Mr. Finamore oversaw pioneering AMI work involving development of the equipment used for the critical communications link required between Duquesne's high end commercial and industrial meters and its head end MV-90 system. A communications interface device was developed (from Telenetics Corporation) specifically for the Duquesne Light project to communicate meter data over analog cellular and telephone lines to the company's MV-90 system. This product was then commercially marketed under the Omega product line, and then improved to include CDPD and CDMA communications

protocols. Many Itron network applications such as Itron's MV Comm software were first implemented at Duquesne to accommodate its extensive fixed network, including a 144 line incoming communications interface required to handle the high call volume associated with Duquesne Light's MV-90 system.

The Duquesne Light network is designed to handle all customer classes and deliver kWhrs, kvars, RTP, TOU, power factor, peak demand, web applications and other meter parameters. Tamper and outage alarms are processed into Duquesne's legacy and outage management systems and can accommodate a wide range of meter types. Data processing applications include daily reads, TOU, off cycle reads, billing reads, pickup reads, and interval data capability through MV-90 for load forecasting, load profiles, reconciliation, data warehousing and other uses.

Status: Industry leading AMI system was installed and has been successfully operating for 15 years.

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