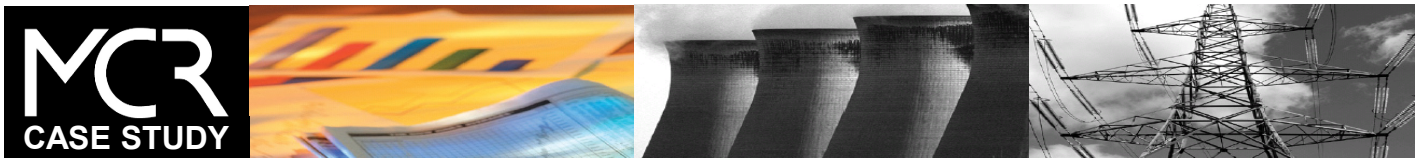

Optimizing Program EM&V Results at Duquesne Light Company

BACKGROUND

Duquesne Light Company, an electric distribution company in Pennsylvania, faced the daunting task of responding to Pennsylvania Act 129. Signed into law by Governor Ed Rendell in 2008, the act required electric distribution companies with more than 100,000 customers in the state to develop cost effective plans to reduce electricity consumption across their service territory by one percent by 2011 and 3% by 2013.

In order to meet these requirements, Duquesne Light Company needed to design a portfolio of energy efficiency programs that could withstand tough scrutiny by third-party evaluators and achieve high realization rates. With high realization rates as a goal, the company selected MCR to create a portfolio of programs that featured evaluation at the core of its design.

SOLUTION

MCR worked with Duquesne Light to develop an energy efficiency potential forecast, which was used to design a portfolio of 17 energy efficiency and demand-response programs serving the residential, low income, commercial, industrial and governmental customer sectors. The programs were designed and benchmarked to best practices to achieve savings in the market segments identified by the potential forecast.

EM&V – The Portfolio Plan

A central element of MCR's design included evaluation, measurement, and verification (EM&V) as a central component of the portfolio. For each of the 17 energy efficiency and demand-response programs, we developed implementation plans, documentation requirements and tracking system specifications that were built with established evaluation protocols in mind. The plans included requests for proposals (RFPs), with statements of work, for contractors to implement the program. The plans defined and prescriptively established the following:

- Project file documentation requirements
- EM&V plan and protocols
- Project review and approval procedures
- Pay-for-performance contracts with realization-rate-based adjustments to contractor compensation

This performance-based compensation for the implementation contractors set the stage for Duquesne Light to recover payments in the event of poor third-party evaluation. If the realization rate, as determined by ex post evaluation, fell below an established threshold, MCR's contract design allowed the utility to receive a refund of the contractor's compensation in proportion to that realization rate. This design ensured that each contractor's self-interest was aligned with that of the program: developing well documented projects, prepared using established protocols, which evaluate well.

Optimizing Program EM&V Results at Duquesne Light Company

SOLUTION *(continued)*

EM&V – The Evaluation Contractor

An additional component of MCR's successful portfolio design was the inclusion of an EM&V plan with the programs filed with the commission. First, we developed energy efficiency programs and then hired a team of EM&V professionals to develop a rigorous evaluation plan that followed industry best practices. At this stage, MCR worked with the EM&V designers to ensure the resulting plan would not create unnecessary barriers to program delivery. The final plan was submitted along with the program designs to the utility commission for review and approval.

Using the scopes of work included in the approved plan as a guide, MCR helped Duquesne procure EM&V services in the marketplace. Since the original EM&V design team was precluded from bidding, the MCR approach ensured that the third-party evaluation contractor had a clear, consistent and commission-approved scope of services that was tailored to Duquesne's specific program offerings.

While the contractor implementing the EM&V plan maintained a great degree of flexibility in designing sampling plans, MCR's two-stage design offered the utility greater certainty in the evaluation process. By separating the EM&V plan design from its execution, the utility was able to keep its contractors for both stages narrowly focused on their specific roll in the program. MCR's efficient design had the effect of lowering the overall costs of procuring EM&V services and ensured consistent project documentation requirements across the portfolio.

RESULTS

Duquesne Light achieved its energy efficiency savings ahead of target, attaining energy efficiency reductions of 521 GWh (123% of goal) through the end of the program on May 31, 2013. Duquesne Light also realized peak demand reductions of 4.5% of peak load. As a result of MCR's program design, the portfolio EM&V realization rates exceeded 95% as measured by an independent evaluation contractor and confirmed by the Pennsylvania Public Utility Commission Statewide Evaluator.

The programs have now entered Phase II of Act 129; Duquesne Light's independent evaluation contractor has become an important partner in reviewing the design of custom protocols for complicated projects, helping to assess the measurement and verification plans before projects begin construction.

"Programs designed to be measured … measure well"

MCR can help you develop a defensible EM&V strategy

Contact Tom Crooks at tcrooks@mcr-group.com or (530) 676-2401
or Jacob Hannan at jhannan@mcr-group.com or (312) 259-3892