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National Grid

Process Evaluation Plans for the
Upstate New York Commercial
Energy Efficiency Programs

August 31, 2010



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1. INTRODUCTION

This document presents the process evaluation plans for four National Grid upstate commercial/industrial (C/I) programs approved in 2010 in New York State. The process evaluation of a fifth program (Small Business: Upstate Electric), which began in early 2009, was completed in July 2010.

The four upstate programs approved in 2010 will be evaluated in one coordinated Energy Initiative study to maximize cost efficiencies. The Upstate Energy Initiative Study will include:

- Energy Initiative—Mid-sized Electric Program
- Energy Initiative—Mid-sized Gas Program
- Energy Initiative—Large Industrial Electric Program
- Energy Initiative—Large Industrial Gas Program

This process evaluation plan and individual program logic models will be finalized based on the individual study start-up meetings and program manager interviews, scheduled to begin in September 2010.

1.1 BACKGROUND

National Grid is an international electricity and gas company and one of the largest investor-owned energy companies in the world. National Grid plays a vital role in delivering gas and electricity to millions of people across Great Britain and the northeastern US. In the US, National Grid distributes electricity to nearly five million customers in Massachusetts, New Hampshire, New York, and Rhode Island. Owing 4,000 megawatts of electricity generation, it is the largest power producer in New York State—carrying power to over one million customers on Long Island and supplying around a quarter of New York City’s electricity needs. National Grid is also the largest distributor of natural gas in the northeastern US, delivering gas to 3.4 million customers in New York, Massachusetts, New Hampshire, and Rhode Island.

National Grid is offering energy efficiency programs to its customers throughout its New York State service territories. These programs cover both electric and gas energy efficiency measures in upstate New York and are limited to natural gas energy efficiency measures in the New York City and Long Island portions of the Company’s service territory. Ratepayer funds support these programs, which focus on reducing energy consumption.

To support the successful planning, implementation, and refinement of National Grid’s New York Energy Efficiency programs, National Grid hired Tetra Tech (formerly PA Consulting Group’s Market Analytics) in September 2009 to conduct process evaluations of all of its New York energy efficiency programs. Since not all programs were approved at the same time, the process evaluations have been staggered.

The New York Public Service Commission (Commission) issued an Order establishing an electric and natural gas Energy Efficiency Portfolio Standard (EPS). The EPS established targets for energy efficiency, similar to the existing Renewable Portfolio Standard, and other programs, intended to reverse the pattern of increasing energy use in New York. The Order called for the creation of an Evaluation Advisory Group (EAG). The EAG advises the Commission and Department of Public Service (DPS) Staff in the development of statewide



1. Introduction. . .

evaluation standards and protocols, program evaluation plans, and other critical evaluation and reporting issues. National Grid and the Tetra Tech team will work closely with the EAG, Commission, and DPS throughout the process evaluations. To facilitate oversight of evaluation activities, DPS staff are invited to participate in the bi-weekly progress conference calls and review evaluation plans, survey instruments, and draft and final reports.

1.2 PROCESS EVALUATION APPROACH

A process evaluation is defined as “a systematic assessment of an energy efficiency program for the purposes of documenting program operations at the time of the examination, and identifying and recommending improvements to increase the program’s efficiency or effectiveness for acquiring energy resources while maintaining high levels of participant satisfaction” (National Action Plan for Energy Efficiency 2007: B-4). The process evaluation of the New York Energy Efficiency programs will:

- systematically review the programs
- regularly provide feedback on the programs’ progress and performance
- openly recognize what is working well with the programs and identify program design issues (including cost-effectiveness issues) and barriers to delivery
- clearly outline actionable recommendations for program improvements.

Following this model, the scope of work is defined by discrete, systematic steps that inform the evaluation. Figure 1-1 depicts the general steps for the process evaluation of each program and the deliverables associated with each step, which are described in more detail in each of the program’s evaluation plans.



Figure 1-1. Process Evaluation Steps

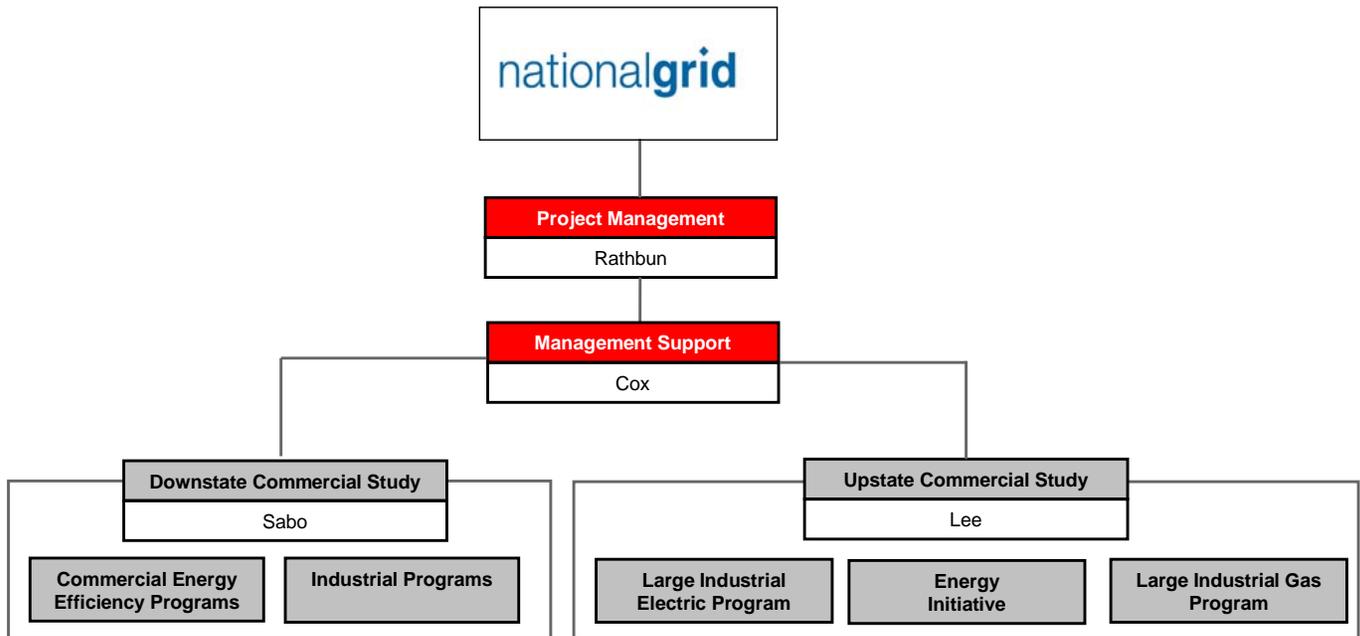
STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
<p>Initiate project: Meet with program managers; review existing logic models; identify and prioritize key management, policy, & process issues</p>	<p>Develop work and individual program evaluation plans: Identify project objectives, data resources, data collection plan, key researchable issues, budget, and timeline</p>	<p>Design sample and collect data: Design sample plan and data collection instruments, draft and test surveys and interview guides, conduct interviews, train and oversee CATI surveys</p>	<p>Analyze results: Summarize results of each activity and debrief with National Grid, adjust work plan as findings dictate</p>	<p>Write reports: Synthesize all findings, write reports to all National Grid audiences, revisit logic models, and make recommendations for improvement</p>
<p>Kick-off meeting summary, interview summaries</p>	<p>Overall evaluation work plan, program detailed process evaluation plans, and logic models</p>	<p>Sample plan, data collection instruments, sample lists, weekly status reports on data collection</p>	<p>Informal debriefings, interim reports</p>	<p>Presentation, revised logic models, draft and final project reports, executive summaries for special audiences</p>

1.3 EVALUATION TEAM

Pam Rathbun is the project manager of the process evaluation of the New York energy efficiency programs and will serve as the main point of communication for National Grid. In addition to regular communication and reporting activities to National Grid, she will be responsible for ensuring that all deliverables and activities stay on schedule. Pam will also lead the coordination of the process evaluation activities across the various programs. This will ensure that participant and market actor surveys are consistent in their questions to the extent possible and are conducted on a timely basis. Stephanie Cox will support Pam Rathbun in project management activities. Tetra Tech has assigned technical leads to each of the upcoming commercial studies. Lark Lee will lead the evaluation of the upstate commercial programs.



Figure 1-2. Organization of Tetra Tech Program Evaluation Team for the Commercial Programs



1.4 EVALUATION PLAN ORGANIZATION

The remaining sections in this plan detail our proposed cross-cutting evaluation tasks, key researchable issues, scope of work, schedule of deliverables, and evaluation budgets for the two studies as follows:

- Section 2. Cross-cutting Evaluation Tasks
- Section 3. Study 1: Upstate Commercial Programs
- Section 4. Study 2: Downstate Commercial Programs



2. CROSS-CUTTING EVALUATION TASKS

As part of the process evaluations of the programs, we will complete six main tasks.

- Task 1: Start-up meeting and program documentation review
- Task 2: Finalize logic model and process evaluation plan for each program
- Task 3: Sampling methodology
- Task 4: Data collection
- Task 5: Analysis
- Task 6: Communication and reporting.

A number of activities under these six tasks are similar and cut across all programs. Rather than repeat them in each program evaluation plan, we have summarized these activities in this chapter:

- Start up meeting and program documentation review
- Logic model development
- Assessment of data tracking mechanisms and data collection procedures
- Sampling methodology
- Data collection
- Analysis
- Communication and reporting

The individual program evaluation plans in the following chapters provide additional detail, as needed, on these activities.

2.1 START-UP MEETING AND PROGRAM DOCUMENTATION REVIEW

A teleconference will be held in August 2010 with program managers and National Grid evaluation staff. Prior to this meeting, Tetra Tech will review any new program-related materials and documentation. Tetra Tech will continue to review available documentation, including program materials and marketing collateral, as documents are identified and become available.

2.2 LOGIC MODEL DEVELOPMENT

As part of Task 2, we will be conducting in-depth interviews with program and implementation staff. The information collected from these interviews, the start-up meeting, and program documentation will be used to develop the logic model for each program. A program logic model is a visual representation of the program's theory¹ that illustrates a set

¹ A program's theory articulates what the program is designed to accomplish and through what means.



2. Cross-Cutting Evaluation Tasks. . .

of interrelated program activities that combine to produce a variety of outputs that lead to key short-, mid- and long-term outcomes. A program logic model can lead to a cost-effective determination of program effectiveness.

Logic models can be linked to performance indicators in order to provide on-going feedback to program managers. The models flow top to bottom and are typically organized according to five basic categories:

- **Program resources:** Financial, staffing, and infrastructure resources that support the activity
- **Program activities:** Overarching activities that describe what the program is doing. Examples include marketing, rebate processing, etc.
- **Outputs:** Metrics resulting from the activities. These tend to be measurable “bean counting” results (e.g., provide outreach events at 5 community fairs)
- **Short- to medium-term outcomes:** Expected outcomes resulting from program activities, with goals attached to those outcomes when possible. Examples include: target energy savings, recruitment into the program, etc.
- **Long-term outcomes:** Ideal, sustainable outcomes resulting from program activities, such as “all eligible customers participate in program” and “increase customer awareness of program offerings.”

Short-, medium-, and long-term outcomes tend to detail program outcomes at a high level and capture market effects. National Grid requested that the outcomes detailed within the logic model be more concrete. Therefore, the logic models include two outcome categories: short-term outcomes and program cycle outcomes. The short-term outcomes are the stepping-stone(s) to the program cycle outcomes, which are tied to program cycle goals (e.g., energy savings, cost per MWh, etc.).

Stepping across the activities enumerated in the logic model indicates an approximate ‘flow’ in the sequence of activities. For example, the logic models begin with the program infrastructure and end with the activity that results in direct energy savings. In each column, the resources needed are specified above each activity. Then, the direct outputs of the activity are enumerated. The outcomes are causally linked to the various outputs in each column of the logic model. In other words, it is expected that the specified output (e.g., installed measures) will result in the specified outcome (e.g., energy savings)

It is important to note that a variety of external influences can also influence the program’s outcomes. External influences include City, State and Federal Codes and Standards (existing and evolving), NYSERDA’s New York Energy \$martSM programs, other New York utility programs, EPA/DOE ENERGY STAR® national and regional program activities, the American Reinvestment and Recovery Act (ARRA) stimulus activities, equipment and technology options (current and evolving), political and economic factors, inflation, and the prices of oil, electricity and natural gas.

The program logic models will be updated based on evaluation findings and submitted with each program’s final report. In addition to an updated logic model, the final report will contain a work flow chart that visually depicts program processes.



2. Cross-Cutting Evaluation Tasks. . .

2.3 ASSESSMENT OF DATA TRACKING MECHANISMS AND DATA COLLECTION PROCEDURES

A key function of the tracking system is to capture information mandated by the Commission as necessary for program implementation and evaluation. Tetra Tech will review the requirements that National Grid is directed to meet as well as their ability to adhere to those requirements. Tetra Tech will document barriers to adhering to requirements where they are not met.

Additionally, the tracking database will capture information necessary for data collection activities related to evaluation efforts. The Tetra Tech team will conduct an analysis of the tracking database to identify whether the information required for the process (and impact) evaluation is being collected and tracked. The review will also be used to inform the customer sample design.

2.4 SAMPLING METHODOLOGY

As part of the data tracking system review and discussions with program staff, Tetra Tech will confirm the size of each program population being examined, including implementation staff, contractors and/or retailers in the market, and participating end-use customers. This data will be used to develop the proposed sampling plan. A sampling plan memorandum for each data collection effort will be distributed to National Grid for review and approval. This memorandum will detail the sampling and stratification approach, as well as population size, selected sample size, expected number of completes, and projected level of precision.

We will design the participant and non-participant sample plan to achieve the minimum standard of 90 percent confidence within ± 10 percent precision for each program. Since customer identifying information for nonparticipants cannot be released by the New York utilities², nonparticipant samples will be purchased from Survey Sampling Inc. or Dunn and Bradstreet, using zip code to identify National Grid customers.

The number of participating trade allies sampled and interviewed will vary depending upon the program. Tetra Tech will consider the number of projects and related savings when sampling participating trade allies.

We understand that data security is of utmost importance when receiving utility customer data, particularly when receiving full customer data. We have worked with National Grid to ensure complete confidence that customer data is secured. As standard practice, Tetra Tech has operating policies that protect client data through the transfer and storing process.

2.5 DATA COLLECTION

The process evaluation data collection activities are designed to provide a comprehensive assessment of program operations from the planning background to implementation to participant experiences. The data collection activities will typically include in-depth interviews and surveys with three groups of individuals: program managers and implementation staff,

² New York Department of Public Service Energy Efficiency Program Information Reporting Manual, June 29, 2009, pages A-4 and A-5.



2. Cross-Cutting Evaluation Tasks. . .

participating and nonparticipating trade allies, and participating and nonparticipating customers. All interview protocols and survey instruments will be submitted to National Grid and DPS staff for review and approval prior to fielding.

2.5.1 Program managers and implementation staff interviews

Formal in-depth interviews with program managers and implementation staff will be conducted immediately following the project initiation meeting. These interviews will be conducted prior to data collection activities because they inform the evaluation plans, program logic models, and survey designs. Tetra Tech will interview program managers and implementation staff on an as-needed basis throughout the evaluation period.

2.5.2 Participating and nonparticipating trade ally interviews

The evaluation team will conduct surveys of participating trade allies and a comparison group of nonparticipating trade allies where appropriate. These surveys will collect data on program awareness, factors affecting participation, and satisfaction with the program. Because many of National Grid's programs involve building a trained trade ally infrastructure, the trade ally interviews may also be used to examine market effects resulting from the program efforts (e.g., changes in business practices). These interviews will also attempt to qualitatively assess economic benefits resulting from the programs, such as increases in staffing to better serve target program populations.

2.5.3 Participating and nonparticipating customer surveys

We will conduct quantitative surveys of participating customers to capture customer perceptions of and experiences with the program, awareness and attitudes of energy efficiency and conservation, and participation in other utility and non-utility programs.

Because this is a process evaluation, the primary objective of the sampling and survey design will be to provide sufficient data to explore process related issues. However, this is also an opportunity to explore free-ridership and spillover issues for the purpose of informing program design. The survey sampling and resulting analysis will not allow for the level of rigor necessary for an impact evaluation that estimates free-ridership and spillover at the measure level. Therefore, the analysis will not result in free-ridership / net-to-gross ratios for inclusion in the technical resource manual.

While the surveys will include targeted questions related to the specific programs, there will be a core set of questions that will be asked of all customers (e.g., program experiences, program satisfaction, awareness and attitudes, firmographics). Questions must be asked in the same manner for all survey efforts (including nonparticipant surveys) to ensure comparability. Additionally, developing core surveys will reduce the survey design costs.

The Tetra Tech team will also conduct quantitative surveys of nonparticipating customers, defined as customers who are eligible but did not participate in the program. These surveys will allow the Tetra Tech team to compare the participant and nonparticipant populations and investigate differences that may yield insights into program design, marketing, and implementation. The surveys will also provide critical information to support the process evaluation by identifying market potential and market or program barriers that should be addressed in program design.



2. Cross-Cutting Evaluation Tasks. . .

A core battery of questions will be used in the nonparticipant surveys, which will be consistent with the participant surveys. These surveys will elicit awareness and previous participation of programs, energy efficiency and conservation awareness (including ENERGY STAR[®] and high-efficiency equipment awareness), energy conservation behaviors, and any standard practices specifying the installation of energy efficient equipment. Additionally, the nonparticipant surveys will include an appliance/equipment saturation battery of questions. These questions will assess the prevalence, age, and efficiency levels of target appliances and equipment. Typically included in a baseline study, this information will help inform the potential for the program.

2.5.4 Data collection capabilities

The participant and nonparticipant telephone surveys will be implemented through Tetra Tech's in-house survey lab. Tetra Tech has experienced survey center managers that have been working with a core group of staff trained in conducting residential and small commercial surveys. The focus of the survey center managers, and subsequently interviewers, is quality. Prior to conducting interviews on a specific evaluation project, all interviewers are required to attend a training session to ensure quality and consistency in the data collection. This training covers the survey objectives and procedures and walks interviewers through the survey instrument question by question. In addition to this initial training, we schedule regular debriefings with interviewers to discuss issues that have arisen and approaches they can take to increase cooperation. At least 10 percent of all telephone surveys are monitored, and the evaluation team receives reports each evening on the progress of all interviewers.

Knowing the importance of achieving a high response rate for evaluation studies, the Tetra Tech team aggressively monitors the samples and employs numerous efforts to maximize response rates and minimize potential non-response bias. Before any telephone contact, the Tetra Tech team will send sampled participating customers a letter on National Grid letterhead that explains the purpose of the upcoming call and asks for their cooperation. This letter will also contain a toll-free telephone number that customers can use to contact the Tetra Tech team and a toll-free telephone number to contact the Company with questions about the study. Since the nonparticipant sample will be a purchased sample without contact information, no advance letter will be used for this group. The telephone survey will be used to identify the appropriate decision-maker within each establishment. During data collection, we will provide a weekly response rate report to National Grid that summarizes the interviewing progress and any issues encountered.

2.6 ANALYSIS

We will conduct data analysis throughout the study as different data collection activities are completed. Results from the analysis will inform findings and recommendations at the program, sector (residential, commercial), and portfolio levels that will be communicated to National Grid at regular intervals.

We will analyze qualitative data from in-depth interviews with program managers and implementation staff by thoroughly reviewing interview transcripts and notes for consistent themes and significant, but perhaps less frequently stated, views. Qualitative data can be examined systematically (e.g., question by question within a spreadsheet) when we have a relatively large number of interviews from people representing like programs. Our analysis of the qualitative interview data will help us assess the effectiveness of the programs'



2. Cross-Cutting Evaluation Tasks. . .

operations relative to the defined program goals and objectives, capture program processes and flows, and suggest ways to implement the programs more cost-effectively.

We will use methods appropriate for the analysis of quantitative data with customers to examine survey responses. We will conduct descriptive analysis (e.g., frequency distributions, measures of central tendency and variation, and cross-tabulations) to examine differences in program awareness, factors affecting participation, and experiences with the program. Investigating differences between participants and nonparticipants can yield valuable information on the segments of the target population that are successfully being reached and how they differ from those that are not yet being served. Our analysis will be guided by the researchable issues identified for each program.

All survey data will be cleaned to ensure all responses receive valid numeric codes and verify that missing values represent logically skipped (not applicable) survey questions. We will provide National Grid with cleaned data files in the Company's preferred file format, along with codebooks and user guides which clearly describe the file format and data collection procedures.

2.7 COMMUNICATION AND REPORTING

Tetra Tech will provide reports and presentations throughout the evaluation period. Our reporting will consist of several types:

- Status reports to support bi-weekly conference calls
- Interim result discussions
- Weekly response rate reports during data collection
- Preliminary results presentation
- Draft report, draft final report, and final report for each program.

Tetra Tech will participate in the bi-weekly project update teleconferences for the programs with National Grid and DPS staff. Prior to each teleconference, Tetra Tech will provide a brief status report to guide the discussion. This status report will summarize progress to-date, tasks for the next reporting period, outstanding data needs or questions to be resolved, major decisions regarding evaluation activities, and any other items for review. As the evaluation matures, the frequency of these meetings may decrease.

We recognize it is critical to communicate feedback immediately to key stakeholders including program planning and delivery staff, and implementation contractors. Our approach is to discuss interim results on a continual basis and schedule periodic results meetings, in person or via teleconference/web, as soon as data are summarized and preliminary findings are available. This allows key stakeholders the opportunity to discuss problem areas and possible solutions, and it allows program staff to make implementation adjustments in a timely manner.

Although we will have discussed interim results with National Grid staff after completing the various activities, it is important for the Tetra Tech team to discuss the complete set of high-level results before we complete the draft report for the program. These discussions are particularly valuable in developing final recommendations for program changes that consider



2. Cross-Cutting Evaluation Tasks. . .

factors such as resource requirements to make those changes. At the same time, these open discussions are conducted in the context of not compromising the objectiveness of the evaluation. In some cases, the discussion may dictate the need for some additional analysis to support findings.

The draft report will present a complete summary of program results. The final report structure will be as follows:

1. Table of Contents, including a list of figures and tables
2. Executive Summary
 - a. Overview of the Program
 - b. Methodology
 - c. Key Results
 - d. Recommendations
 - e. Summary and conclusions
3. Introduction
 - a. Program Background
 - i. Program description
 - ii. Program objectives
 - iii. Program logic model
 - iv. Program achievements
 - b. Evaluation Methodology
 - i. Sampling design
 - ii. Data collection activities
4. Process Evaluation Findings
 - a. Summary of Key Findings
 - b. Program Satisfaction
 - c. Ease of Participation
 - d. Customer Awareness and Marketing
 - e. Customer Characteristics and Decision Making Processes
 - f. Trade Ally Participation
 - g. Program Administration, Processes, and Resources
 - h. Program Saturation
5. Recommendations
6. Summary and conclusions
7. Appendices: Supporting technical appendices including data collection instruments

Along with the final report, we will develop an Executive Summary appropriate for submittal to regulators. In addition to review by Company evaluation manager and other staff, we understand that the draft report, the draft final report, and the final report may be reviewed by the DPS and/or outside consultants before finalizing



3. ENERGY INITIATIVE STUDY: UPSTATE COMMERCIAL PROGRAMS EVALUATION PLAN

This section presents the process evaluation plan for the Upstate Energy Initiative commercial programs. These programs will be evaluated jointly to maximize efficiencies and resources and take advantage of synergies in data collection such as interviewing account managers about outreach for the programs. The Energy Initiative programs include:

- Energy Initiative—Mid-sized Electric Program
- Energy Initiative—Mid-sized Gas Program
- Energy Initiative—Large Industrial Electric Program
- Energy Initiative—Large Industrial Gas Program

3.1 PROGRAM DESCRIPTION

The Energy-Initiative Programs target non-residential electric and gas customers meeting certain electric demand or annual natural gas consumption levels. All the Energy Initiative programs provide technical assistance (if appropriate) and incentives to facilities to encourage the installation of energy efficiency measures. Incentives are available for both prescriptive and custom measures.

The programs' delivery includes National Grid technical staff, account managers and Commercial Energy Consultants as well as third-party technical service suppliers. In addition, National Grid is leveraging the trade ally infrastructure to also promote the program to customers.

The mid-sized electric program targets non-residential customers with electric demand of less than 2 MW while the mid-sized gas program is targeted to non-residential customers with annual consumptions levels of less than 10,000 dekatherms. The large industrial gas program targets industrial customers that use 10,000 dekatherms of natural gas or more annually and the large industrial electric program targets large industrial customers that have an electric load of 2 MW or greater.

There is a petition out for the mid-sized gas program that may drop their maximum consumption level to 7,000 dekatherms and the large industrial gas program to 7,000 dekatherms or more annually. We will take any changes into account based on the outcome of the petition.

The mid-sized programs focus on retrofitting opportunities for mechanical and electrical systems in commercial, industrial, agricultural, governmental and institutional buildings. In addition, National Grid and NYSERDA recently launched "Energy Efficiency for Health," a new partnership to help National Grid's hospital customers across New York State reduce their energy usage, save on operating costs and cut greenhouse gas emissions through more efficient use of electricity and natural gas. Under the new initiative, National Grid and NYSERDA will combine expertise and resources to provide hospitals with individualized and targeted technical assistance.

The large industrial gas program targets process applications, pipe insulation, envelope improvements, steam traps, heat exchangers, boiler controls, and custom heating and water heating applications.



The large industrial electric program targets lighting, compressed air, motors and variable speed drives, and other industrial electric uses.

3.2 KEY RESEARCHABLE ISSUES

Table 3-1 prioritizes preliminary key researchable evaluation issues based on our review of program documentation. The researchable issues are stated broadly to incorporate issues identified by the Evaluation Team. These researchable issues will be refined and revised as needed using information gathered during in-depth interviews with program managers and staff and trade allies. This matrix provides: questions the Evaluation Team will address throughout the course of the evaluation; activities that support addressing the questions; and initial prioritization of these questions.

Table 3-1. Researchable Issues and Prioritization

Researchable Question	Activity to Support the Question	Initial Priority
Customer Awareness and Marketing		
How is the program promotion working? What improvements can be made? What are the differences by sector (medium vs. large customers)	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews • Participant survey 	High
How do participants most commonly hear about and become involved in the program?	<ul style="list-style-type: none"> • Participant survey 	Low
Program Administration, Processes and Resources		
How effective is the collaboration between all parties (i.e., National Grid, account managers, energy efficiency consultants, contractors, vendors, etc.)?	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews 	Med
Is the training to staff and trade allies sufficient? If not, what additional training and education support can be provided?	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews 	Med
Do program manager and trade allies feel they have sufficient staffing resources to deliver the program? What additional information or resources are needed?	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews 	Med
Are there areas the program could increase cost-effectiveness through shared strategies and partnerships with other utilities and organizations in New York?	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews • Participant survey 	Med
Trade Ally Participation		
Are there any internal or external barriers to trade allies effectively delivering the program? Are program requirements clearly understood and correctly implemented?	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews 	High
Ease of Participation		
What are the characteristics of the participating customer population and how does that compare to the eligible population? Are there any groups not reached by the program that also have financial and efficiency needs?	<ul style="list-style-type: none"> • Program staff interviews • Trade ally interviews • Participant survey • Nonparticipant survey 	High
What barriers exist for customers' participation in the program? What marketing and outreach efforts are most	<ul style="list-style-type: none"> • Program staff interviews 	High



3. Energy Initiative Study: Upstate Commercial Programs Evaluation Plan. . .

Researchable Question	Activity to Support the Question	Initial Priority
successful in generating customer leads?	<ul style="list-style-type: none"> Participant survey Nonparticipant survey 	
Program Satisfaction		
How is the program working? How could it be improved? What enhancements are needed in the design and delivery of the program?	<ul style="list-style-type: none"> Program staff interviews Trade ally interviews Participant survey Nonparticipant survey 	High
Are customers satisfied with the program? What do they believe could be offered to improve program services?	<ul style="list-style-type: none"> Trade ally interviews Participant survey 	High
Customer Characteristics and Decision Making Processes		
Which measures have been installed and what type of equipment did it replace? How are they accepted and valued by the customer?	<ul style="list-style-type: none"> Participant survey 	High
Do measures remain installed and, if not, why not?	<ul style="list-style-type: none"> Participant survey 	High
Did the technical assistance provide additional information which prompted additional measures or behavior changes? How important was the technical assistance in their decision to participate? The program incentive?	<ul style="list-style-type: none"> Participant survey 	Med
Does participation affect participants' perception of the utility and, if so, how?	<ul style="list-style-type: none"> Participant survey 	Low
Why do customers decide not to install measures after receiving technical assistance?	<ul style="list-style-type: none"> Nonparticipant survey 	High
Program Saturation		
Is the program delivering the intended benefits to participants and are they achieving planned energy impacts?	<ul style="list-style-type: none"> Program staff interviews Trade ally interviews Participant survey 	High
Is the appropriate information being collected to support future evaluation activities (i.e., impact evaluation)?	<ul style="list-style-type: none"> Program staff interviews 	High
Are program goals set appropriately?	<ul style="list-style-type: none"> Program staff interviews 	Med
Will the program be on target to reach its savings and spending goals? Why or why not?	<ul style="list-style-type: none"> Program staff interviews 	Med
Are there differences in participation by technology? If so, what is driving those differences?	<ul style="list-style-type: none"> Participant survey Trade ally interviews 	Med

3.3 EVALUATION WORK PLAN

This section outlines the process evaluation plan developed from the review of the initial program documentation. These tasks will be refined and revised, as needed, based on our interviews with program staff and our analysis of the program database.

3.3.1 Task 3: Sampling Methodology

We will sample participant and nonparticipants to achieve the minimum standard of 90 percent confidence within ± 10 percent precision for each of the four Energy Initiative



3. Energy Initiative Study: Upstate Commercial Programs Evaluation Plan. . .

programs. We expect considerable overlap in customers participating in both the electric and gas programs. When participation rates are less than 70, we will attempt to survey a census of customers. All sampling will depend on actual participation levels.

National Grid will provide a list of participating customers to the evaluation team from which Tetra Tech will select the sample based on customer segment. Tetra Tech will submit a request with the specification of the data to pull.

As previously indicated, customer identifying information for nonparticipants cannot be released by the New York utilities³. Therefore, we are proposing two sampling approaches for the nonparticipant survey. The first is those who have received technical assistance but decided not to move forward with the project. Depending on the number of customers that fall into this category, we may contact a census of these nonparticipants because of the importance of understanding barriers to participating in the program. The second category of nonparticipants will be a random sample of commercial customers purchased from Survey Sampling Inc. or Dunn and Bradstreet, using zip code to identify National Grid customers and screen for customers who have not participated in the program.

3.3.2 Task 4: Data Collection

National Grid staff, technical service suppliers and trade allies are key to program delivery and therefore in-depth interviews with these groups will be the first data collection activity completed. These will be followed by participant and nonparticipant surveys. Table 3-2 summarizes the key data collection activities and timeline.

Table 3-2. Summary Table of Data Collection and Timeline

Data Collection Activity	Sept	Oct	Nov	Dec	Jan	Feb	Mar
National Grid staff interviews							
Trade ally and technical service suppliers interviews							
Participant and nonparticipant surveys							

3.3.3 National Grid staff interviews

Interviews with National Grid staff will include the program manager, account managers and Commercial Energy Consultants, in-house technical experts and marketing staff. These interviews will explore and refine the researchable issues identified above and inform the customer survey design. The interviews will identify stated program goals and objectives, assess the effectiveness of the programs' operations relative to the defined program goals and objectives, capture program processes and flows, and explore ways to implement the programs more cost-effectively. The interview results will also be compared to program documentation to identify any areas where operations or priorities are not fully consistent with the program goals or where operational inefficiencies exist. This will form the basis to explore further in the evaluation any warranted recommendations on how the program

³ New York Department of Public Service Energy Efficiency Program Information Reporting Manual, June 29, 2009, pages A-4 and A-5.



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management, organizational structure, operations, budget, or other practices should be modified or clarified. A logic model will be developed based on the interviews with the program manager and implementation staff.

3.3.4 Trade ally and technical service suppliers interviews

The primary objective of the interviews with trade allies and technical service suppliers is to identify if there are changes in the program design that could increase participation and determine what is working well. We will interview up to 20 trade allies and technical service suppliers, including external contactors and vendors such as lighting and mechanical system contractors, and quality assurance staff. The evaluation staff will interview both participating and nonparticipating contractors to identify any barriers to vendor participation. Nonparticipating contractor interviews will focus on contractors who program representatives have visited or called.

3.3.5 Participating and nonparticipating customer surveys

This evaluation will include up to 140 quantitative surveys with participating customers in the mid-sized programs to capture customer perceptions of and experiences with the programs, satisfaction with and effectiveness of the programs, awareness and attitudes of energy efficiency and conservation, and participation in other utility and non-utility programs. The sample will be stratified by customer type (electric vs. gas).

Both the Large Industrial Gas program and the Large Industrial Electric program are expected to see a limited number of participants; therefore we will attempt to survey a census of these participants.

The Tetra Tech team will also conduct quantitative surveys of 140 nonparticipating customers who did not participate in the program. These surveys will identify market barriers that could be addressed in program design. These surveys will be a mix of customers that received technical assistance but did not participate further and customers who have not heard of the program.

Like the participant survey, the nonparticipant survey will also elicit awareness and previous participation of programs, energy efficiency and conservation awareness, and energy conservation behaviors.

3.4 SCHEDULE OF DELIVERABLES

Table 3-3 lists the deliverables that will be produced as part of the Upstate Energy Initiative Programs process evaluation and the timeline for delivery.

Table 3-3. Key Deliverables

Deliverable	Date of delivery
Program staff interview guide	September 2010
Detailed evaluation plan and program logic model	September 2010
Trade ally interview guides	October 2010
Program and trade ally interviews interim results memo	November 2010
Field participant and nonparticipant surveys	January 2011
Participant and nonparticipant survey interim results memo	March 2011



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Preliminary results meeting April 2011
Drafts and final program evaluation report May 2011

3.5 BUDGET

The budget for the Upstate commercial process evaluation is \$145,232. This budget includes evaluation activities that will occur in 2010 and the first half of 2011. The budget, per task, is seen in Table 3-4 below.

Table 3-4. Budget by Task

Task	Budget
Develop logic model and finalize evaluation plan	\$12,402
Sample methodology	\$9,837
Data collection	\$67,661
Analysis	\$26,458
Reporting	\$28,874
Total	\$145,232